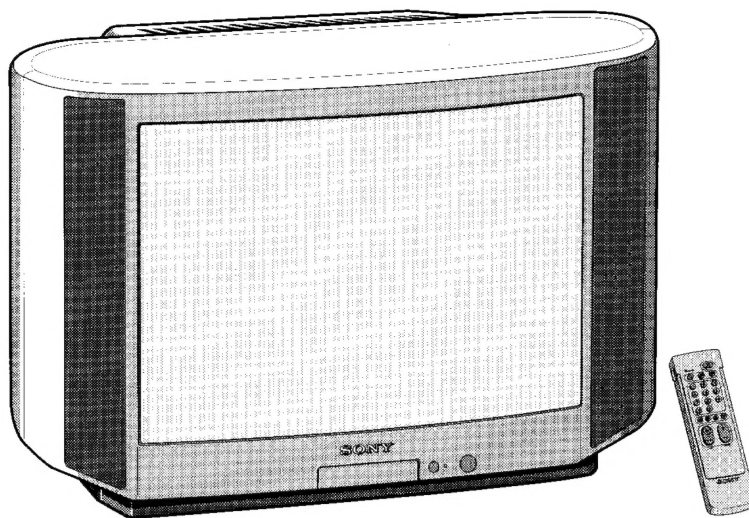


# SERVICE MANUAL

# BE-3C CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-C2501A	RM-833	Italian	SCC-G81M-A	KV-C2503E	RM-833	Spanish	SCC-G82L-A
KV-C2503B	RM-833	French	SCC-G85K-A	KV-C2508E	RM-833	Spanish	SCC-H63C-A
KV-C2509B	RM-833	French	SCC-H61C-A	KV-C2509E	RM-833	Spanish	SCC-H63D-A
KV-C2501D	RM-833	AEP	SCC-G77M-A	KV-C2501K	RM-833	OIRT	SCC-H68C-A
KV-C2508D	RM-833	AEP	SCC-H62C-A	KV-C2509K	RM-833	OIRT	SCC-H68D-A
KV-C2509D	RM-833	AEP	SCC-H62D-A				



TRINITRON® COLOR TV  
**SONY®**

ITEM	MODEL	Television System	Stereo System	Channel Coverage	Color System
AEP		B/G/H, D/K	GERMAN Stereo	PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Italian		B/G/H	GERMAN Stereo	ITALIA VHF:A-H2 PAL B/G VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10	PAL NTSC4.43, NTSC3.58 (VIDEO IN)
French		B/G/H, L, I	GERMAN / Nicam Stereo	L VHF:F02-F10 UHF:F21-F69 CABLE:B-Q S21-S44 B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) I UHF:B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Spanish		B/G/H	GERMAN / Nicam Stereo	PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
OIRT		B/G/H, D/K	GERMAN Stereo	B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)

MODEL	Italian	French	AEP	Spanish	OIRT
Power Consumption	79W	101Wh	101Wh	102Wh	101Wh

## SPECIFICATIONS

**Picture Tube** Hi-Black Trinitron  
Approx. 63 cm (25 inches)  
(Approx. 59 cm picture measured diagonally)  
110° -deflection

### Input/Output Terminals

#### [REAR]

- Ⓔ 1 21-pin Euro connector (CENELEC standard)
  - inputs for audio and video signals
  - inputs for RGB
  - outputs of TV video and audio signals
- Ⓔ 2/Ⓔ 2 21-pin Euro connector
  - inputs for audio and video signals
  - inputs for S video
  - outputs for audio and video signals (selectable)

#### [FRONT]

- Ⓔ Video input - phono jack
- Ⓔ 3 Audio inputs - phono jacks
- Ⓔ S video input 4-pin DIN
- Ω Headphone jacks : stereo minijack

- Sound output 2 x 15W (Music power)
- Dimensions Approx. 717x507x480 mm
- Weight Approx. 32.5kg
- Supplied accessories RM-833 Remote Commander (1)  
IEC designation R6 battery (1)
- Other features NICAM, FASTEXT, TOPTXT.

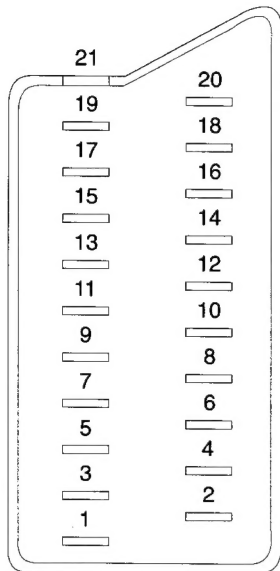
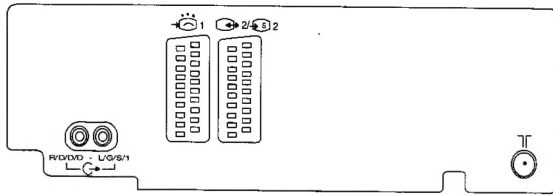
#### [RM-833]

- Remote control system infrared control
- Power requirements 1.5V dc  
1 battery IEC designation R6 (size AA)
- Dimensions Approx. 65x225x21 mm (w/h/d)
- Weight Approx. 157g (Not including batteries)

Design and specifications are subject to change without notice

Model name Item	KV-C2501A	KV-C2503B KV-C2509B	KV-C2501D KV-C2508D KV-C2509D	KV-C2503E KV-C2508E KV-C3509E	KV-C2501K KV-C2509K
Pal Comb	OFF	OFF	OFF	OFF	OFF
PIP	OFF	OFF	OFF	OFF	OFF
RGB Priority	ON	ON	OFF	OFF	OFF
Woofer Box	OFF	OFF	OFF	OFF	OFF
Scart 1	ON	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON	ON
Front in (3)	ON	ON	ON	ON	ON
Scart 4	OFF	OFF	OFF	OFF	OFF
Projector	OFF	OFF	OFF	OFF	OFF
AKB in 16:9 mode	ON	ON	ON	ON	ON
Norm B/G/H	ON	ON	ON	ON	ON
Norm I	OFF	ON	OFF	OFF	OFF
Norm D/K	OFF	OFF	ON	OFF	ON
Norm AUS	OFF	OFF	OFF	OFF	OFF
Norm L	OFF	ON	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF	OFF
Toptext	ON	ON	ON	ON	ON
Nicam Stereo	OFF	ON	OFF	ON	OFF
Language Preset	Italian	French	German	Spanish	OIRT

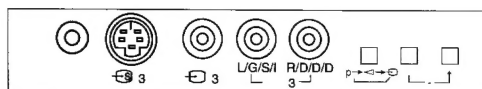
## 21 pin connector ( 1 2 4 )



Pin No.	1	2	4	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance :Less than 1kohm*
2	○	○	○	Audio input B (right)	Standard level : 0.5V rms Output impedance :More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedance :Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedance :More than 10kohm*
7	○	●	●	Blue input	0.7 ± 3dB, 75 ohms, positive
8	○	○	○	Function select (AV control)	High state (9.5 - 12V) : Part mode Low state (0 - 2V) : TV mode Input impedance : More than 10k ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 ± 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground(blanking)	
15	○	—	—	Red input	0.7 ± 3dB, 75 ohms, positive
	—	○	○	(S signal) chroma input	0.3 ± 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1 - 3V) Low state (0 - 0.4V) Input impedance : 75ohms
17	○	○	○	Ground(video output)	
18	○	○	○	Ground(video input)	
19	○	○	○	Video output	1V ± 3dB,75ohms,positive sync:0.3V(-3+10dE
20	○	—	—	Video input	1V ± 3dB,75ohms,positive sync:0.3V(-3+10dE
	—	○	○	Video input Y (S signal)	1V ± 3dB,75ohms,positive sync:0.3V(-3+10dE
21	○	○	○	Common ground (plug, shield)	

○ Connected ● Not Connected (open) \* at 20Hz - 20kHz

Pin No	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB 75 ohm , positive Sync. 0.3V -3/+10 dB
4	C (S signal) input	0.3V ± 3dB 75 ohm , positive Sync.





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**CAUTION**

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.

**WARNING !!**

AN ISOLATING TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD, DUE TO A LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

**SAFETY-RELATED COMPONENT WARNING !!**

COMPONENTS IDENTIFIED BY SHADING AND MARKED  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLIMENTS PUBLISHED BY SONY.


**ATTENTION**

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

**ATTENTION !!**

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE. LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

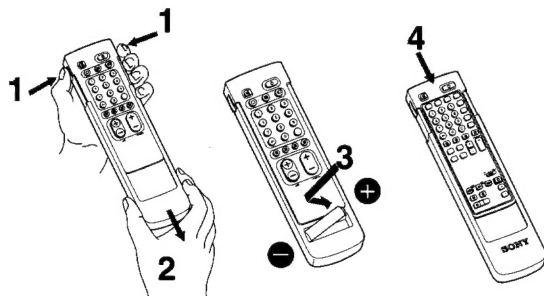
**ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ !!**

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MARQUE  SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIÈCES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÈCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY.

## SECTION 1 GENERAL

# Getting Started

### Inserting the Battery Into the Remote Commander



Remove the cover.

Check the correct polarity.

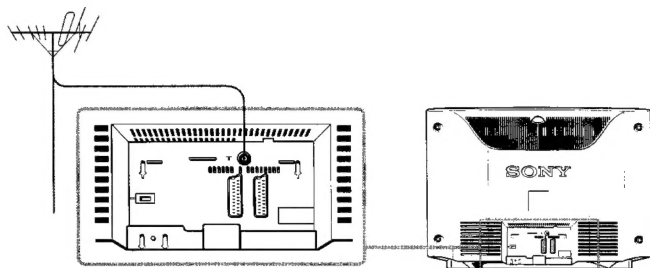
Refit the outside cover making sure that the Full Function side is visible.

### About Battery Life

Under normal operation, a battery will last up to half a year.

### Connecting the Aerial

Connect aerial to the  $\Pi$  socket at the rear of the TV.  
(cable not supplied)



### Choosing a Language

(See inside of front cover and back cover)

#### 1 Depress $\odot$ [A] on the TV.

The TV turns on. If the standby indicator [B] on the TV is lit, press  $\square$  [3] or any number button [4] on the Remote Commander.

#### 2 Press MENU [7] on the Remote Commander.

The SELECT LANGUAGE screen appears.

MENU

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

- 3 Press one of the colour buttons [17] on the Remote Commander to select a language (Press the white button [17] to display other language alternatives). The SELECT LANGUAGE screen clears and all subsequent menus appear in the chosen language.

#### SELECT LANGUAGE

- ENGLISH
- DEUTSCH
- FRANÇAIS
- ESPAÑOL
- MORE

SELECT COL. BUTTON

**Note:** From the second time when you turn on the TV, the MENU screen appears instead of the SELECT LANGUAGE screen. Press the yellow button [17] then press the white button [17] to redisplay the SELECT LANGUAGE screen.

### Tuning in to Channels

You can tune in up to 100 channels to programme positions either automatically or manually.

**auto tuning:** A single button press allows all receivable channels to be tuned. Use if you are unfamiliar with the channel numbers of stations.

**manual tuning:** Use if you are familiar with the channel numbers of stations.  
(Channel numbers from the main UK transmitters are shown on page 13)

Choose the more appropriate way for you.

### Tuning in to Channels Automatically

There are two possibilities for auto tuning;

A. On the TV: hold down  $\Rightarrow$  [E] on the front of the TV for 2 seconds  
(All receivable channels are tuned in the order noted below).

or

B. On the Remote Commander: as follows

#### 1 Press MENU [7].

#### 2 Press the white button [17].

#### 3 Hold down the red button [17] for 2 seconds,

**Note:** Press the green button [17] to cancel.

Channels are automatically stored as follows:

Programme1	BBC1
Programme2	BBC2
Programme3	ITV
Programme4	CH4 or S4C

**Note:** Programme names are automatically taken from TELETEXT if available. If not, "-----" is placed in the name.

- If you connect a VCR via the aerial cable, set the VCR to its test signal or play mode before auto-tuning.
- You may have to exchange the programme positions, if there are duplicated signals from local transmitters.

## Tuning in to Channels Manually

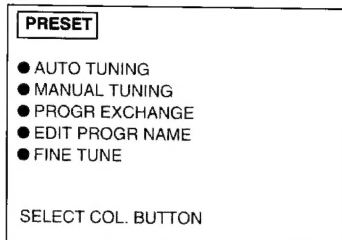
### 1 Press MENU [7].

The MENU screen appears.



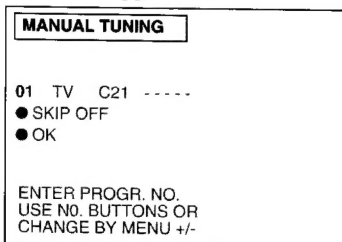
### 2 Press the white button [17] to select PRESET.

The PRESET screen appears.



### 3 Press the green button [17] to select MANUAL TUNING.

The MANUAL TUNING screen appears.

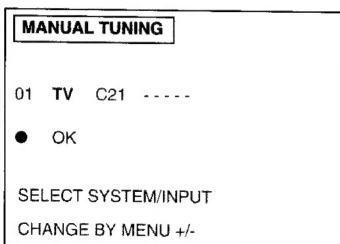


### 4 Press the number buttons [4] or MENU+/- [9] to select a programme position.

If you use the number buttons [4], enter a double-digit number. (e.g. for programme number 4, first press 0, then 4)

### 5 Press the green button [17].

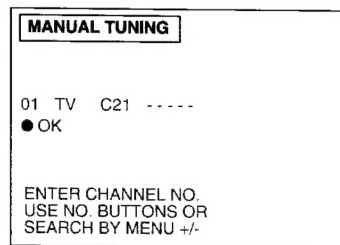
**Note:** Use MENU +/- [9] to select "TV". You can alternatively select input sources which may be assigned to programme positions. The display changes as follows:



TV ↔ AV1 ↔ RGB ↔ AV2 ↔ YC2 ↔ AV3 ↔ YC3

### 6 Press the green button [17].

**Note:** If a video input source is selected in step 5, this is now stored. Refer to step 4 to tune other programme positions.



### 7 Press the number buttons [4] or MENU+/- [9] to select the channel number.

If you use the number buttons [4], enter a double-digit number. (e.g. for channel 23, first press 2, then 3)

**Note:** Programme names are automatically taken from TELETEXT if available. If not, "----" is placed in the name. Or if you select AV1, RGB, AV2, YC2, AV3 or YC3 as an input source, AV1, RGB, ... is placed.

### 8 Press the green button [17] to store.

**Note:** If you want to preset other channels, repeat steps 4 to 8.

### 9 Press MENU [7] twice to return to the normal screen.

**Note:** You can skip unused programme positions when selecting programmes with the PROGR +/- buttons [18]. Press the red button [17] to skip in step 4. However, the skipped programmes may still be called up when you use the number buttons.

## Basic TV Operations

### Turning the TV on and off

#### Turning on

Depress ⓐ [A] on the TV.

#### Turning off temporarily

Press ⓐ [10] on the Remote Commander.

The TV enters standby mode and the standby indicator ⓑ [B] on the front of the TV lights up.

#### Turning on again

Press ⓐ [3], PROGR +/- [18], or one of the number buttons [4] on the Remote Commander.

#### Turning off completely

Depress ⓐ [A] on the TV.

**Note:** It is recommended to use ⓐ [A] to turn off the TV. This could help you save energy.

### Selecting TV Programmes

Press PROGR +/- [18] or press number buttons [4].

#### To select a double-digit number

Press -/-- [5], then the number buttons [4].

### Adjusting the Volume

Press ⓐ +/- [19].

### Muting the Sound

Press ⓐ [1].

To resume normal sound, press ⓐ [1] again.

### Displaying the On-screen Indications

Press ⓐ [14] once to display the on-screen indications.

Press again to make the indications disappear.

**Note:** If NICAM is transmitted regardless of whether it is stereo or mono, the two speaker symbol automatically appears on the screen for several seconds.

### Operating the TV Using the Buttons on the TV

With the buttons on the TV, you can adjust or select the functions as follows:

Press ⓐ +/- [D] to adjust the volume.

Press P +/- [C] to select programme numbers or to turn the TV on from the standby mode.











Press ⓐ [F] to select the input source.

Press ⓐ [E] to preset channels automatically.

# Advanced TV Operations

## Operating the Menu System








You can adjust picture and sound, preset channels to programme positions and utilise other convenient features by using the following menu system.

Press;	to;
<b>1</b> MENU  	enter the MENU screen
<b>2</b> a colour button  	select an item you want to change (The selected item is marked by a triangle.)
<b>3</b> MENU +/-   	change (or adjust) the contents of the item
<b>4</b> MENU 	return to the MENU screen
<b>5</b> MENU  again	return to the normal screen
Press MENU  once or twice whenever you want to return to the normal screen.	

**Note:** When selecting menus, the picture becomes darker. If, however, an item in the PICTURE ADJUSTMENT menu is selected, normal level of TV picture is restored to allow the best adjustment.







## Adjusting the Picture and Sound





Although picture and sound are adjusted at the factory you can adjust them to suit your own taste.

- 1** Press MENU . The MENU screen appears. 
- 2** Press the red button  to select PICTURE or the green button  to select SOUND.
- 3** Press the respective colour button  to select an item.
- 4** Press MENU +/-  to adjust.
- 5** Press MENU  twice or wait until the menu displays disappear automatically to return to the normal screen.

## PICTURE ADJUSTMENT






(First Page)


PICTURE ADJUSTMENT	
	.....
	.....
	.....
	.....
	.....
	.....
SELECT COL. BUTTON ADJUST BY MENU +/-	


Press colour button	Effect
<b>Red:</b> For Picture 	Less — — More
<b>Green:</b> For Colour 	Less — — More
<b>Yellow:</b> For Brightness 	Darker — — Brighter
<b>Blue:</b> For Sharpness 	Softer — — Sharper
<b>White:</b>	Next page of PICTURE ADJUSTMENT

## PICTURE ADJUSTMENT

(Second Page)

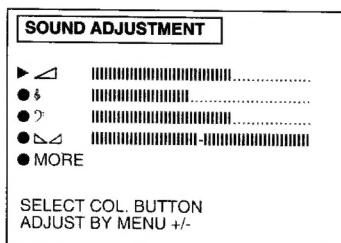
PICTURE ADJUSTMENT	
	COLOUR TONE NORMAL
	FORMAT NORMAL
	ROTATION NORMAL
	.....
	BACK
SELECT COL. BUTTON CHANGE BY MENU +/-	

Press colour button	Effect
<b>Red:</b> For Colour Tone	Normal -> Warm (reddish colour tone) -> Cool (blueish colour tone)
<b>Green:</b> For Format	Normal: Normal setting 16:9 Wide screen effect
<b>Yellow:</b> For Picture Rotation (only for KV-C29")	Normal: Normal setting -5 ~ +5: Adjusts the picture slant caused by the earth magnetism
<b>Blue:</b> For Hue control  (only for NTSC video signals)	Reddish — — Greenish
<b>White:</b>	Back to first page of PICTURE ADJUSTMENT

**Note:** Press  on the Remote Commander to reset to the factory preset levels for picture and sound.

## SOUND ADJUSTMENT

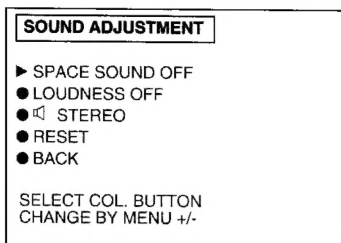
(First Page)



Press colour button	Effect
<b>Red:</b> For Volume	Less — — More
<b>Green:</b> For Treble	Less — — More
<b>Yellow:</b> For Bass	Less — — More
<b>Blue:</b> For Balance	More left - more right
<b>White:</b>	Next page of SOUND ADJUSTMENT

## SOUND ADJUSTMENT

(Second Page)



Press colour button	Effect
<b>Red:</b> For Space Sound	OFF: normal sound ON: for a special acoustic sound effect
<b>Green:</b> For Loudness	OFF: normal sounds ON: when listening to music broadcast
<b>Yellow:</b> For Stereo:	Stereo -> Mono A (left channel) -> Mono B (right channel) -> Mono
<b>Blue:</b> For Reset:	Resets to the factory preset levels for picture and sound
<b>White:</b>	Back to first page of SOUND ADJUSTMENT

**Note:** Press [8] on the Remote Commander to reset to the factory preset levels for picture and sound.

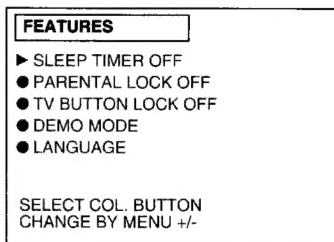
## Using Special Features

With your TV you can utilise special features such as Parental Lock or Sleep Timer.

- 1 Press MENU [7].  
The MENU screen appears.
- 2 Press the yellow button [17] to select FEATURES.
- 3 Press the respective colour button [17] to select an item.
- 4 Press MENU +/- [9] to change.
- 5 Press MENU [7] twice or wait until the menu displays disappear automatically to return to the normal screen.

MENU

## FEATURES



Press colour button	Effect
<b>Red:</b> For Sleep Timer  (Automatic switch off function)	OFF -> 0:30 -> 1:00 -> 1:30 -> 2:00 (hours) After the selected time the TV set switches itself automatically into standby mode.
<b>Green:</b> For Parental Lock (For preventing children from watching programmes which you consider unsuitable)	OFF: Normal setting ON: The TV-channel you are watching is now blocked. In this way you can prevent undesirable broadcasts from appearing on the screen.
<b>Yellow:</b> For TV Button Lock	OFF: Normal setting ON: The buttons on the TV do not function anymore. (The Remote Commander still operates)
<b>Blue:</b> For Demo Mode	ON: A sequence of menu pictures is displayed. Press any button on the Remote Commander to stop the function.
<b>White:</b> For Language	The SELECT LANGUAGE screen appears.

## Advanced Presetting Functions

### Exchanging Programme Positions

You can exchange the programme positions to a preferred order (example: exchange programme 09 (channel C21) with programme 15 (channel C24)).

- 1 Press **MENU** **[7]**.  
The MENU screen appears.



- 2 Press the white button **[17]**.  
The PRESET screen appears.

- 3 Press the yellow button **[17]**.  
The PROGR EXCHANGE screen appears.

**PROGR EXCHANGE**

01 TV C21 -----

- NEXT CHANNEL
- LAST CHANNEL

- STORE

SELECT COL. BUTTON

- 4 Press the white button **[17]** repeatedly until the desired programme number (09) appears.
- 5 Press the red or the green button **[17]** repeatedly until the desired channel number (C24) appears.
- 6 Press the white button **[17]** to store.  
Now the exchange has been completed. Channel C24 is tuned in to programme 09 and channel C21 is tuned in to programme 15.
- 7 Press **MENU** **[7]** twice to return to the normal screen.

### Editing Programme Names

You can edit the programme names up to five letters.

- 1 Press **MENU** **[7]**.  
The MENU screen appears.



- 2 Press the white button **[17]**.  
The PRESET screen appears.

- 3 Press the blue button **[17]**.  
The EDIT PROGR NAME screen appears.  
The first character flashes.

**EDIT PROGR NAME**

01 TV C21 -----

- NEXT LETTER
- STORE

CHANGE BY MENU +/-

- 4 Press **MENU** +/- **[9]** to edit the first letter.  
The first letter changes as follows;

A ↔ B ↔ ... ↔ Z ↔ 0 ↔ 1 ↔ ... ↔ 9 ↔ " " (space)

- 5 Press the red button **[17]** to move to the next letter.

- 6 Repeat steps 4 to 5, until the fifth letter is chosen.

- 7 Press the green button **[17]**.  
The programme name is stored, and the normal screen appears. To edit another programme name, repeat steps 1 to 7.

### Fine Tuning

You can adjust the receiving condition by the FINE TUNE function.

- 1 Press **MENU** **[7]**.  
The MENU screen appears.
- 2 Press the white button **[17]**.  
The PRESET screen appears.
- 3 Press the white button **[17]** again.  
The FINE TUNE screen appears.

**FINE TUNE**

- STORE
- EXIT/WATCH

ADJUST BY MENU +/-

- 4 Press **MENU** +/- **[9]** to adjust the receiving condition.
- 5 Press the red button **[17]** to store the adjustment, or press the green button **[17]** not to store.  
Then the normal screen appears. If you have pressed the green button, the fine tuned condition is cancelled once you choose another programme.

### Tuning in to a Channel Temporarily

You can tune in to a channel temporarily, even when it has not been preset.

- 1 Press **C** **[16]** on the Remote Commander.  
The indicator "C" appears on the screen.
- 2 Enter a double-digit channel number using the number buttons (e.g. for channel 23, first press 2, then 3).  
The channel appears.  
However, the channel is not stored.

## Teletext Operation

TV stations broadcast teletext programmes via the TV channels. For basic operation of teletext, use the simple side of the Remote Commander. For the advanced features of teletext, use the buttons indicated in green on the full function side of the Remote Commander.

### Basic Teletext Operation

#### Switching Teletext on and off

- 1 Select the channel which carries the teletext service you wish to view.
- 2 Press **[11]** to display Teletext.  
If no teletext signal is broadcast, the indication P100 is displayed on a black screen.



- 3 Input three digits for the page number using the number buttons **[4]**.  
The numbers are displayed on the screen and the requested page appears in a few seconds.  
**Note:** If you make a mistake, type in any three digits, then re-enter the correct page number.

- 4 Press **[3]** once or **[11]** twice to return to the TV mode.

**Note:** To change the teletext channels. First press **[3]** to return to the TV mode, then repeat steps 1 to 3.

**Note:** If the signal of a TV channel is weak, teletext errors may occur.

### Advanced Teletext Operation

#### Using Fastext

With Fastext you can access pages with one button press. When a Fastext page is broadcast, a colour-coded menu will appear at the bottom of the screen. The colours of this menu correspond to the red, green, yellow and blue buttons **[6]** on the Remote Commander.

Press the corresponding colour button **[6]** on the Remote Commander which corresponds to the colour-coded menu. The page will be displayed in a few seconds.

#### Requesting the Index page

Press **[17]**. The Index page appears.

#### Accessing the next or preceding page

Press **[18]** (PAGE +) or **[19]** (PAGE -). The next or the preceding page appears on the screen.

#### Superimposing the teletext display on the TV picture

Press **[11]** once if you are in text mode or press **[11]** twice if in TV mode.

To return to the normal teletext display press **[11]** twice.



#### Preventing a teletext page from being updated or changed

Press **[2]** (HOLD). The HOLD symbol (**[2]**) appears on the screen and the selected subpage is held until you press **[11]** to cancel.

### Enlarging the teletext display

Press **[13]** once to enlarge the upper half. Press twice to enlarge the lower half. Press again to restore the normal display.



### Revealing concealed information (e.g. answers to a quiz)

Press **[14]** (REVEAL). The information is revealed. Press **[14]** again to conceal the information.

### Watching TV while waiting for a requested page to be displayed

- 1 Request a new teletext page.

- 2 Press **[12]** (TEXT CL).  
The TV programme is displayed and the symbol **[12]** is displayed at the top of the page.  
**Note:** When the requested page is available the page number is displayed at the top of the screen.

- 3 Press **[11]** to view the page.

**Note:** To cancel the request

Display the teletext page, then press **[11]**. The request is now cancelled. Press **[3]** to resume TV mode.

### Using the Favourite Page system

You can store up to four of your favourite teletext pages per programme with the help of the Favourite page system. In this way you have quick access to the pages you watch frequently.

#### Storing the Favourite Pages

- 1 Select the page you would like to store using the number buttons **[4]**.
- 2 Press **[15]** twice.  
The colour prompts at the bottom of the screen flash.
- 3 Press any of the colour buttons **[6]** on the Remote Commander to store the selected page.  
The page is now stored on this button.

Repeat steps 1 to 3 for the other 3 pages available.

#### Displaying the Favourite pages

- 1 Press **[15]**.
- 2 Press the colour button **[6]** corresponding to the colour prompt onto which the desired page is stored.  
The page is requested. (It may take a few seconds to be received).

**Note:** Step 1 must be taken before every favourite page selection, otherwise the normal Fastext facility operates.

### Using the Time Function in the TV mode


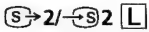



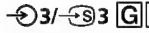

Press **[12]** to request the time. Press again to cancel the request.


**Note:** This function is available only when teletext is broadcast.






## Connecting Other Equipment

You can connect optional audio/video equipment to this TV such as VCRs, video disc players, cameras or stereo systems.


Connector	Acceptable input signal	Available output signal
 <b>1</b> <b>M</b> (AV1/RGB)	Audio/video and RGB signal	Audio/video signal from TV Tuner
 <b>2</b> /  <b>2</b> <b>L</b> (AV2) (YC2)	Audio/video and S video signal	Audio/video signal from selected source
 <b>3</b> /  <b>3</b> <b>G</b> <b>H</b> (AV3)	Audio/video signal and	No outputs
 <b>3</b> /  <b>3</b> <b>G</b> <b>I</b> (YC3)	Audio/S video signal	


To watch a video input picture, press  **2** until the desired video input appears.

To return to the normal TV picture, press  **2** repeatedly or press  **3**.

**Note:** If you have a decoder, connect it to  **1** **M**.

### Connecting a VCR Using the TV Aerial Terminal

Connect the aerial output of the VCR to the aerial terminal  **K** of the TV. It is recommended to tune in the VCR signal to programme number "0". For details, see "Tuning in to Channels Manually" on page 6.

**Note:** S video input (Y/C input)  **1** **L**

Video signals may be separated into Y (luminance or brightness) and C (chrominance) signals.

Separating the Y and C signals prevents them from interfering with each other and therefore improves the picture quality (especially luminance). This TV is equipped with 2 video input terminals through which these signals can be input directly.

## Checking and Selecting the Input and Output Sources Using the Menu

You can display a menu screen to see which input and output source are selected. You can also change the selection using this menu.

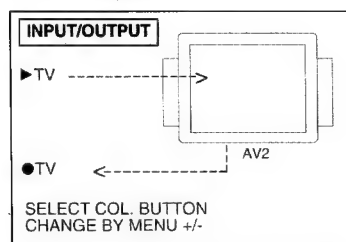
### Checking the Input and Output Sources

#### 1 Press MENU .



The MENU screen appears

#### 2 Press the blue button **17** to select INPUT/OUTPUT.

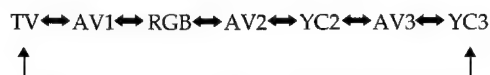
The INPUT/OUTPUT screen appears.








### Selecting an Input Signal

Press the red button  **17** to select INPUT. Press MENU +/-  **9** to select the desired input source.

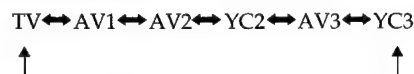
You can select among the following sources:




### Selecting an Output Signal

The  **2** /  **2** connector  outputs the source input from the other connectors. Press the green button  **17** to select OUTPUT. Press MENU +/-  **9** to select the desired output source.

You can select among the following sources:



**Note:** Press MENU  **7** twice or wait until the menu displays disappear automatically to return to the normal screen.

## Remote Control of Other Sony Equipment

You can use the TV Remote Commander to control most Sony remote-controlled video equipment such as: Beta, 8mm or VHS VCRs or video disc players.

### Tuning the Remote Commander to the equipment

#### 1 Set the VTR 1/2/3 MDP selector **20** according to the equipment you want to control:

VTR 1: Beta VCR

VTR 2: 8mm VCR


VTR 3: VHS VCR

MDP: Video Disc Player


#### 2 Use the buttons **21** to operate the additional equipment.

**Note:** If your video equipment is furnished with a COMMAND MODE selector: set this selector to the same position as the VTR 1/2/3 MDP selector on the TV Remote Commander.

**Note:** If the equipment does not have a certain function, the corresponding button on the Remote Commander will not operate.

**Note:** When you use the  (record) button, make sure to press this button and the one to the right of it simultaneously.

## Using Headphones

You can utilise headphones. Connect them to the headphone jack  **J** to mute the sound from the speakers.

**Note:** You cannot control the sound adjustment except for volume.



## For your information

### Troubleshooting

Here are some simple solutions to problems which may affect the picture and sound.

#### No picture (screen is dark), no sound

- Plug the TV in.
- Press **⏻ A** on the TV. (If the standby indicator **B** is lit, press **⏻ 3** or any number button **4** on the Remote Commander.)
- Check if the selected video source is on.
- Turn the TV off for three or four seconds and then turn it on again using **⏻ A**.

#### Poor or no picture (screen is dark), but good sound

- Press MENU **7** to enter the MENU screen, and press the red button **17**, then adjust **⦿** and **⦿**.

#### Good picture but no sound

- Press **⏻ 19**.
- If **⦿** is displayed on the screen, press **⦿ 1**.

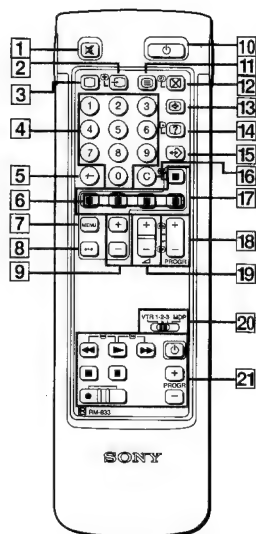
#### No colour for colour programmes

- Press MENU **7** to enter the MENU screen, and press the red button **17**, then adjust **⦿**.

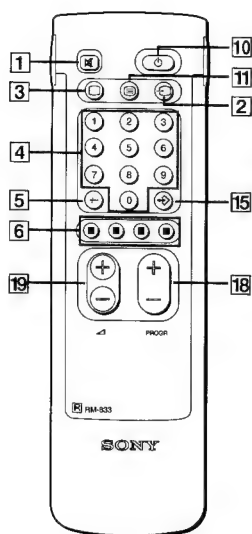
#### Remote Commander does not function

- Replace the battery.

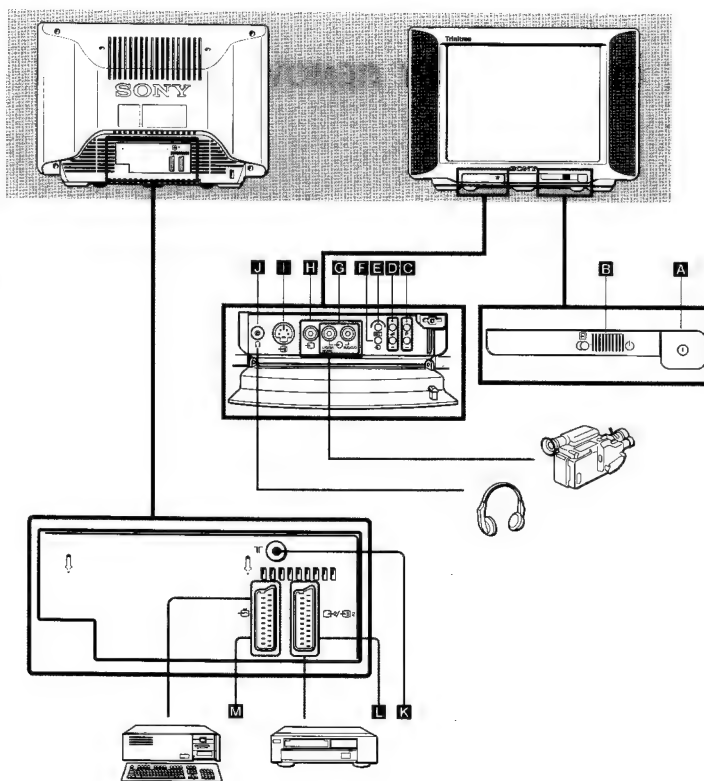
If you continue to have problems, have your TV serviced by qualified personnel. Never open the casing yourself.



Full-Function Side

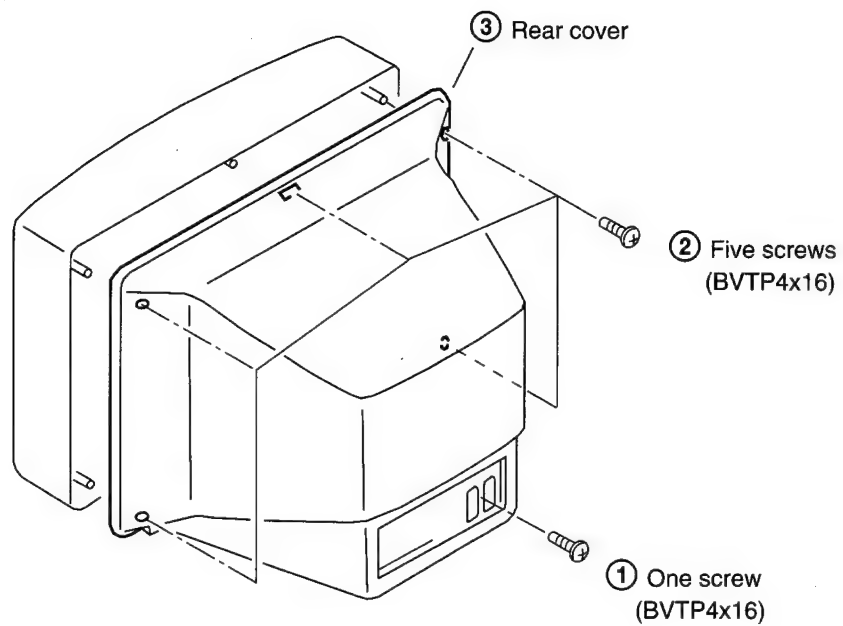


Simple Side

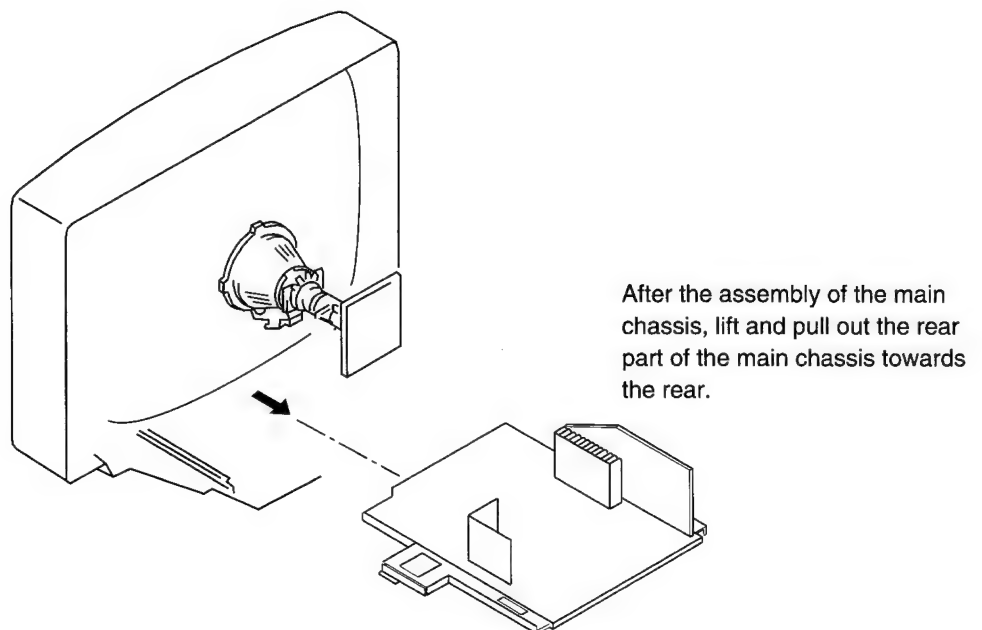


## SECTION 2 DISASSEMBLY

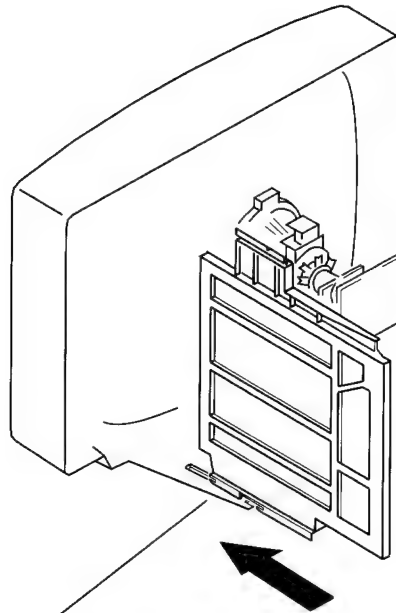
### 2-1. REAR COVER REMOVAL



### 2-2. CHASSIS ASSY REMOVAL

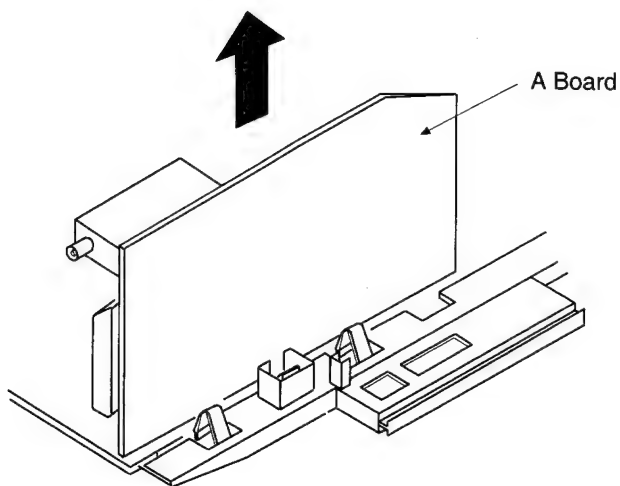


## 2-3. SERVICE POSITION

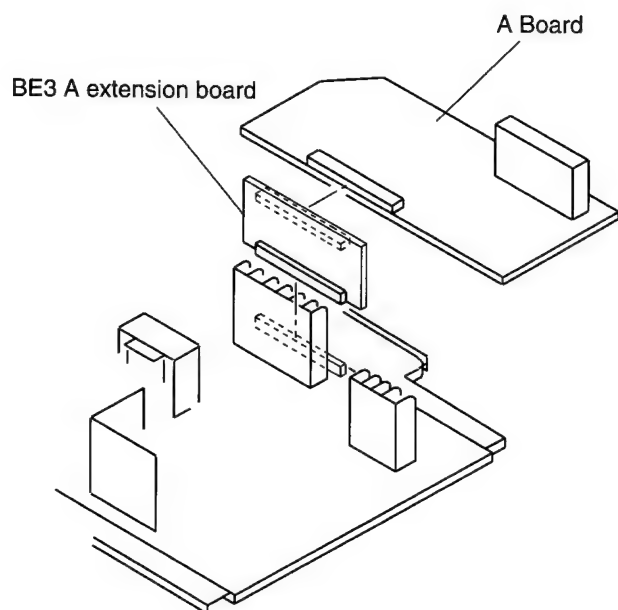


Locate the 2 slots on the edge of the chassis bracket in the locating holes and slide in the direction of the arrow

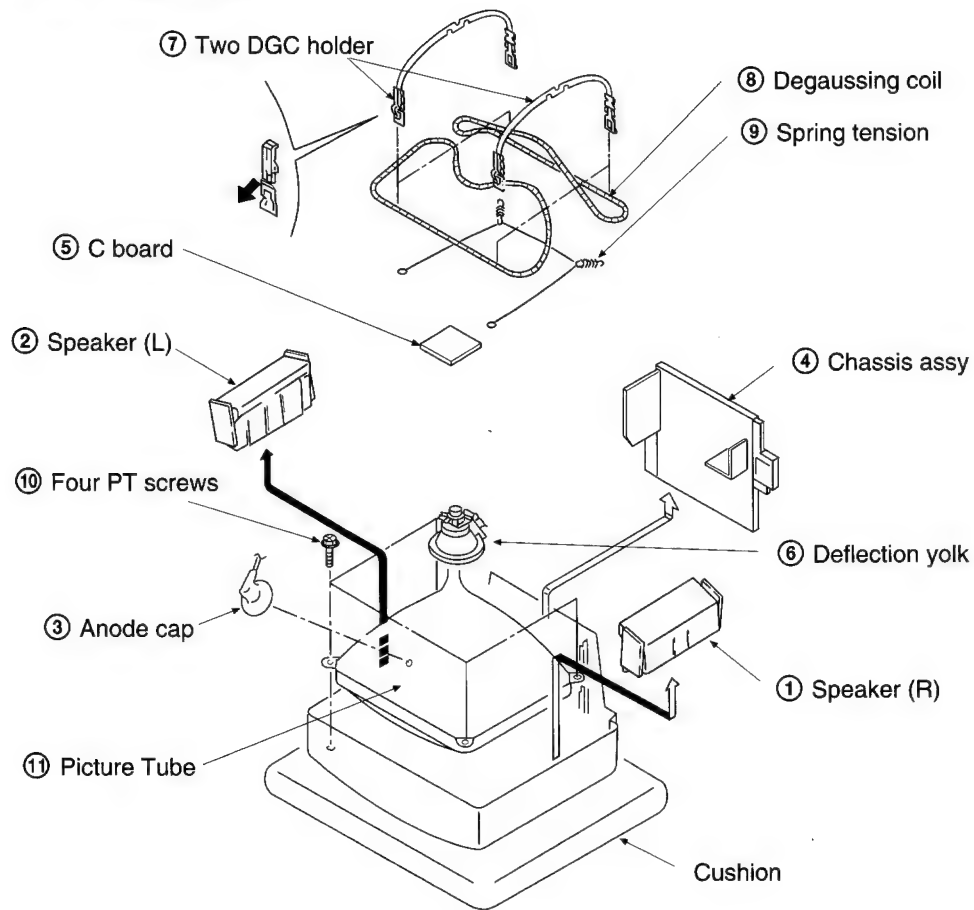
## 2-4. A BOARD REMOVAL



## 2-5. EXTENSION BOARD



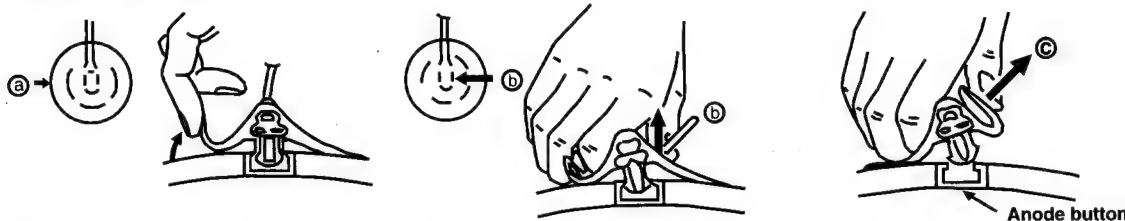
## 2-6. PICTURE TUBE REMOVAL



### • REMOVAL OF ANODE-CAP

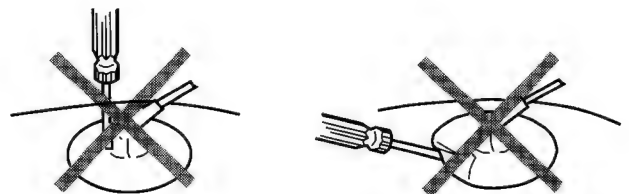
**Note:** Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

#### \* REMOVING PROCEDURES.



#### • HOW TO HANDLE AN ANODE-CAP

- ① Don't damage the surface of anode-cap with sharp shaped material !
- ② Don't press the rubber hardly not to hurt inside of anode-caps !  
A metal fitting called as shatter-hook terminal is built into the rubber.
- ③ Don't turn the foot of rubber over hardly !  
The shatter-hook terminal will stick out or damage the rubber.



## SECTION 3

### SET - UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there are specific instructions to the contrary, carry out these adjustments with the rated power supply.
- Unless there are specific instructions to the contrary, set the controls and switches to these settings :

Ⓢ Contrast ..... 80% (or remote control normal)  
 ⚙ Brightness ..... 50%

- Carry out the following adjustments in this order :

1. Beam landing
2. Convergence
3. Focus
4. White balance

**Note:** Testing equipment required.

1. Color bar/pattern generator
2. Degausser
3. DC power supply
4. Digital multimeter
5. Oscilloscope

#### Preparation:

- In order to reduce the influence of geomagnetism on the set's picture tube, face it east or west.
- Switch on the set's power and degauss with the degausser.

#### 3-1. BEAM LANDING

1. Input the white signal with the pattern generator.  
 CONTRAST } normal  
 BRIGHTNESS }
2. Set the pattern generator raster signal to red.
3. Move the deflection yoke forward and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side. (See Fig. 3-1 - 3-3)
4. Move the deflection yoke forward and adjust so that the entire screen becomes red. (See Fig. 3-1)
5. Switch the raster signal to blue, then to green and verify the condition.
6. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
7. If the beam does not land correctly in all the corners, use a magnet to adjust it. (See Fig. 3-4)

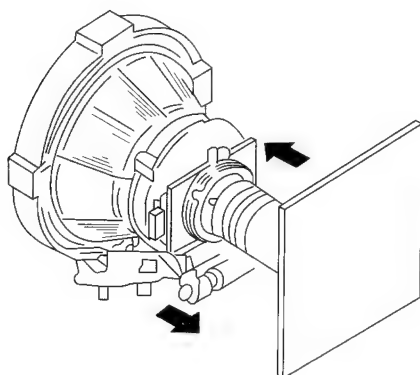


Fig. 3-1

Fig. 3-2

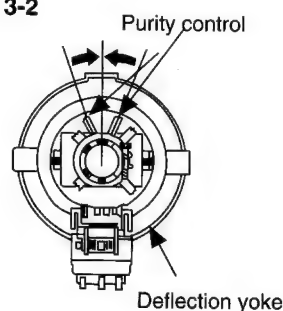


Fig. 3-3

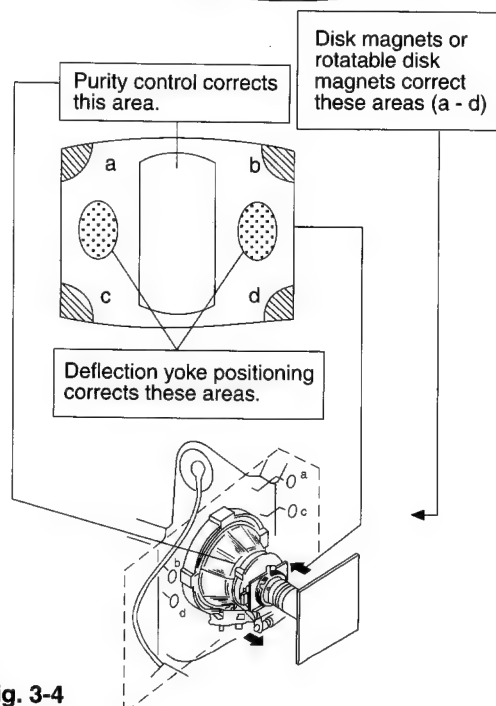
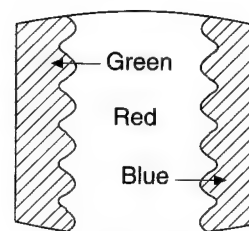


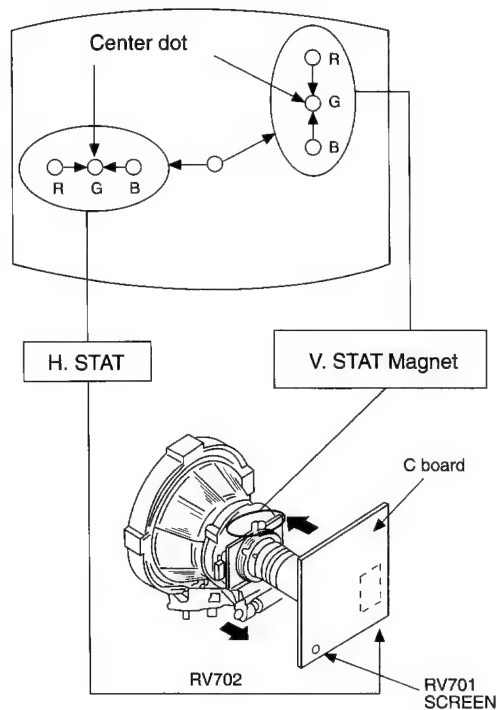
Fig. 3-4

### 3-2. CONVERGENCE

#### Preparation:

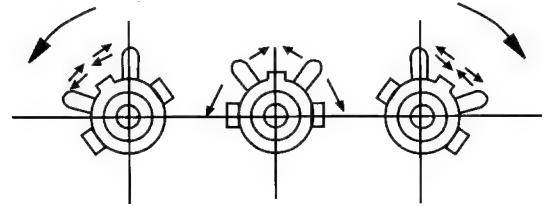
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide a dot pattern.

#### (1) Horizontal and vertical static convergence

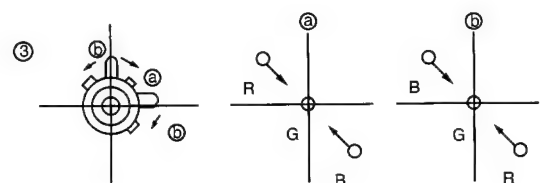
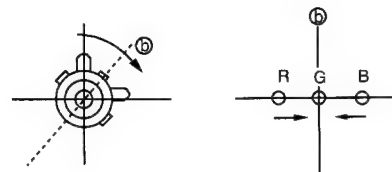
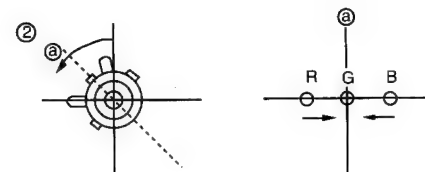
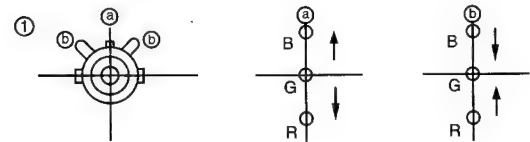


1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner given below.  
(In this case, the H.STAT variable resistor and the V.STAT magnet influence each other)

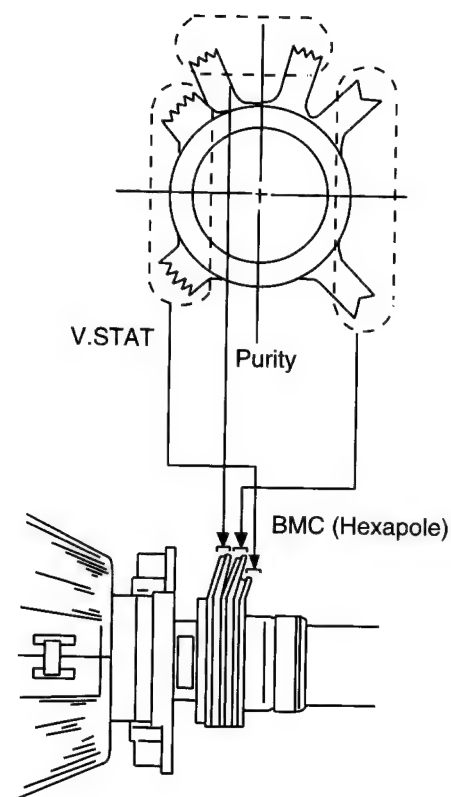
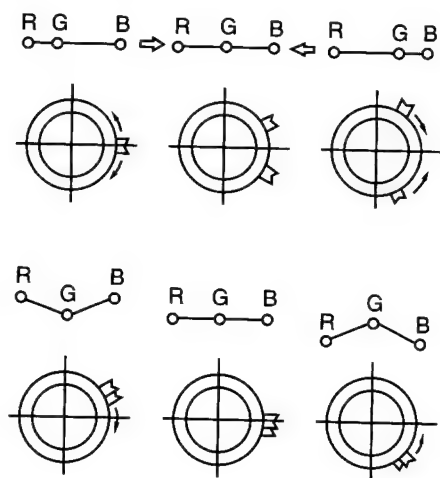
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.



4. If the V.STAT magnet is moved in the direction of the (a) and (b) arrows, the red, green, and blue points move as shown below.



- Operation of BMC (Hexapole) Magnet



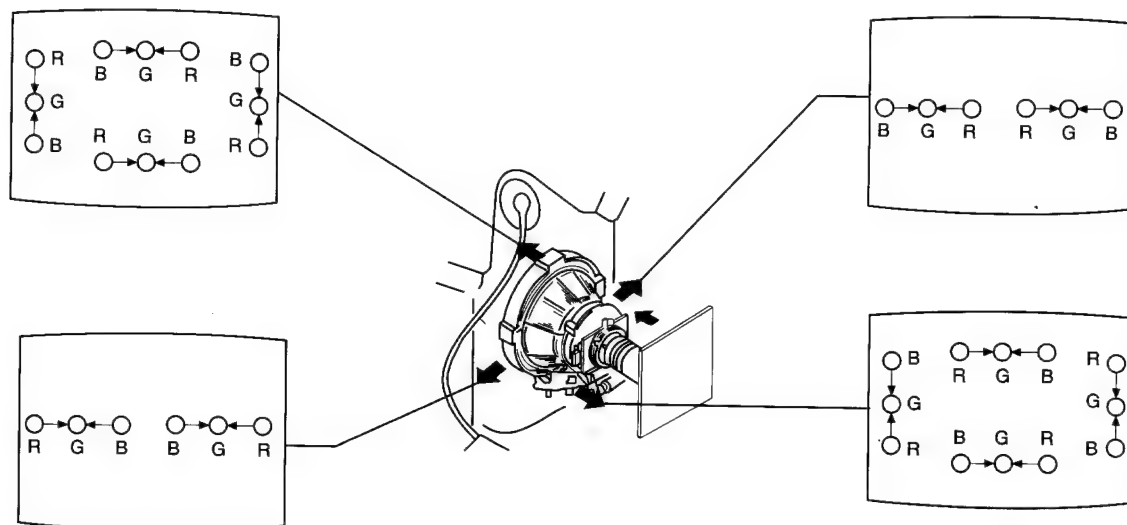
- The respective dot position resulting from moving each magnet interact, so be sure to perform adjustment while tracking.  
Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of the screen (by moving the dots in the horizontal direction).

## (2) Dynamic convergence adjustment.

### Preparation:

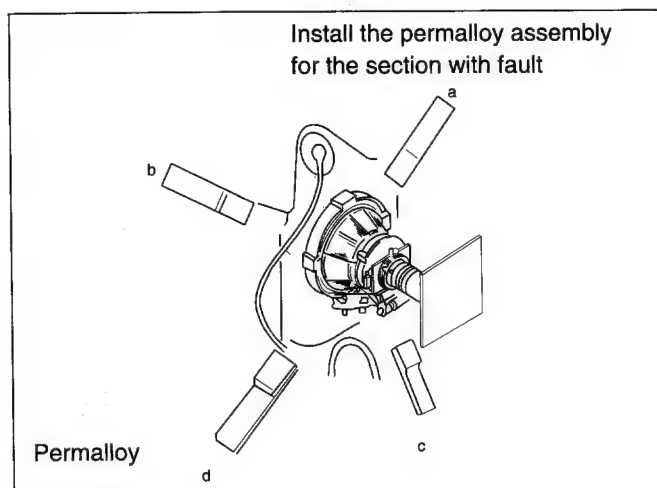
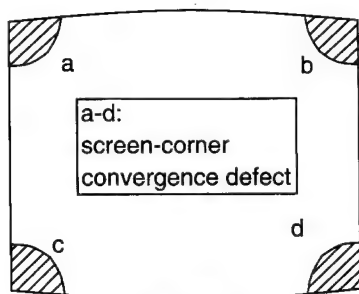
- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.
- Slightly loosen the deflection yoke screws.

- Remove the deflection yoke spacer.
- Move the deflection yoke as shown in the figure below and optimize the convergence.
- Tighten the deflection yoke screws.
- Re-install the deflection yoke spacer.

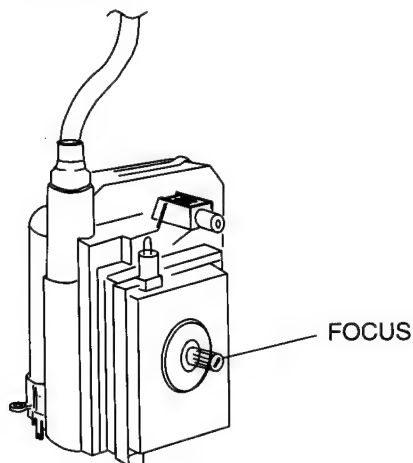


**(3) Screen corner convergence.**

If you are unable to adjust the corner convergence properly, correct them with the use of permalloy assemblies.

**3-3. Focus**

Adjust the focus to optimize the screen.

**3-4. WHITE BALANCE****Screen G2 Setting**

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 180V DC to the R,G, and B cathodes with an external power supply.
4. While watching the picture, adjust G2 control RV701 (Screen) to the point just before the return lines disappear.

**White balance adjustment**

1. Receive an all-white signal.
2. Enter into service mode. (Refer to the section 4 "Electrical Adjustment" on how to enter service mode.)
3. Select TDA8366 1 on menu.

DEVICE : TDA8366 1

STAT : 12

☐ NEXT  
☐ PREVIOUS  
☐ OK

USE COLOUR KEYS  
 SONY TEST MENU.

4. Press the White button on the Remote Commander to enter into the device Menu.
5. Press the Red button 10 times "Next" "Next" "Next" to select HWB RED, adjust to 32.
6. Press the Red button to select HWB GREEN, adjust with the + and - menu buttons so that the white balance becomes optimum.
7. Press the Red button to select HWB BLUE, adjust with the + and - menu buttons so that the white balance becomes optimum.
8. Press the TV button twice on the Remote Commander to store the data and return to TV operation.



## SECTION 4

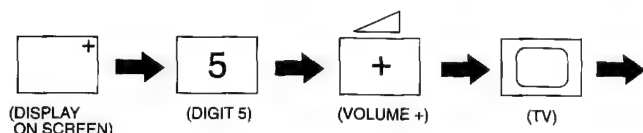
### CIRCUIT ADJUSTMENTS

#### 4-1. ELECTRICAL ADJUSTMENTS

Service adjustment to this model can be performed with the supplied remote commander RM-833.

##### HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power switch of the set and enter into standby mode.
2. Press the following sequence of buttons on the Remote Commander.



“TT” will appear in the top right corner of the screen. Other status information will also be displayed.

3. Press the MENU button on the Remote Commander to obtain the menu on the screen.

DEVICE NAME

STAT : xxxx

☐ NEXT

☐ PREVIOUS

☐ OK

USE COLOUR KEYS  
SONY TEST MENU.

4. Press the Red (Next) and Green (Previous) buttons to select the device corresponding to the adjustment item from the table. Then press the White button (OK).

DEVICE NAME

00 ADJUSTMENT : xxx

☐ NEXT

☐ PREVIOUS

SELECT COL.BUTTON  
CHANGE BY MENU +/-

5. Press the Red (Next) or Green (previous) buttons to select the adjustment item. Then press the and buttons to change the data to comply with each standard.
6. Turn off the power to quit the service mode when adjustments are completed.

Initial Conditions for setup of TDA8366, TDA6612 and SAA7283. ( Stereo Models Only )

TDA8366 1	INIT VALUE	TDA8366 2	INIT VALUE
Hue	31	Interlace	00
H Shift	Adj	Sync Mode	00
H Size	Adj	Col Dec	00
Pin Amp	Adj	Vert Div	00
Corn Pin	Adj	Vid ID	00
Tilt	Adj	EHT Track	01
V.Linear	Adj	En V Grd	00
V.Size	Adj	Serv Blk	00
S.Corr	Adj	OVF Mode	00
V.Cent	Adj	Aspect R	00
HWB Red	Adj	Start Freq	00
HWB Green	Adj	Y/C Input	00
HWB Blue	Adj	PAL/NTSC	00
Peaking	8	Xtal PLL	00
Bright	32	Y Delay	07
Colour	32	RGB Blk	00
Picture	37	Noise Cor	00
AGC Set	00	Fast Blk	01
Srce Sel 1	00	AFC Wind	00
Srce Sel 2	00	IF Sensy	00
Time Con	03	Mod Std	00
Xtal Ind	03	Vid Mute	01
FF Freq	02		

TDA6612	INIT VALUE	TDA6612	INIT VALUE
MPX Per	00	Mute 2	01
Quasi St	00	C1/2LS	00
Bass Exp	00	C1/2KH	00
H Pulse	00	Mono	01
Matrix St	00	Scart	00
Bypass	00	Scart D	00
Vol L Sp	07	AM	00
Vol R Sp	07	SAA7283	INIT VALUE
Vol HP	00	Mon M1/M2	01
PII Sync	00	DM Select	01
Mute 3	01	SSWIT 123	07
Treble	08	Port 2	00
Bass	09	Mute Def	00
X Talk Adj	Adj	AMDIS	00
Mute 1	00	E Max	80
		E Min	01

## 4-2. TEST MODE 2 :

Is available by pressing Test button twice, OSD 'TT ' appears. The functions described below are available by pressing the two numbers. To release the Test Mode 2, press 0 twice, or switch the TV into Stand-by Mode.

00	switch Test Mode 2 off
01	picture maximum
02	picture minimum
03	Volume 35%
04	Volume 50%
05	Volume 65%
06	Volume 80%
07	Ageing Condition (Volume min., Picture max., Brightness max.
08	Shipping Condition (Analog Values are RESET due to factory setting, Prog 1 is selected, TT Mode is switched off)
09	"Menu" Flag request
10	Tenth entry is deleted
11	dummy
12	dummy
13	dummy
14	Forced AV 16:9 detection on/off
15	Read factory setting from NVM Reads Volume, Balance, Treble, Bass, Brightness, Contrast, Hue, Sharpness, Colour values from ROM to the actual used values (Last Power Memory)
16	Save actual used values as RESET values Memorize actual used values Balance, Treble, Bass, Hue, Sharpness at RESET position in NVM.
17	Preset Label for AV Sources
18	RGB Priority on/off
19	Clear all preset labels
20	Tenth entry is deleted
21	Sub Contrast
22	Sub Colour
23	Sub Brightness
24	Set destination = U RGB Priority = Off
25	Set destination = D RGB Priority = Off
26	Set destination = B RGB Priority = On
27	Set destination = K RGB Priority = Off
28	Set destination = L RGB Priority = Off
29	Set destination = E RGB Priority = Off

30	Tenth entry is deleted
31	Set Destination = A RGB Priority = On
32	dummy
33	Auto AGC
34	N/S Pin Adjust
35	Manual AGC Adjust
36	dummy
37	dummy
38	To Activate Rotation Coil Adjustment
39	Check Rotation Coil Adjustment
40	Tenth entry is deleted
41	Re-initialise NVM
42	Production use only
43	Initialise Geom Settings
44	Initialise all favorite pages = 100
45	Channel locks = off
46	IR Channel Presetting Mode The channel presetting can be done by a Special IR Transmitter ( Ver 2 and above software only)
47	dummy
48	Set NVM testbyte to 44h
49	Erase the NVM Testbyte (this byte detects already stored NVM's) After selecting this function, switch TV Off and On -> the NVM will be preset by $\mu$ -Controller.

In Test Mode the Menu display is switchable by the Speaker-Off button.

**Note :** For Test Modes 41 - 49 it is necessary to ensure that the TV is set to Prog 59.

**SUB BRIGHTNESS ADJUSTMENT**

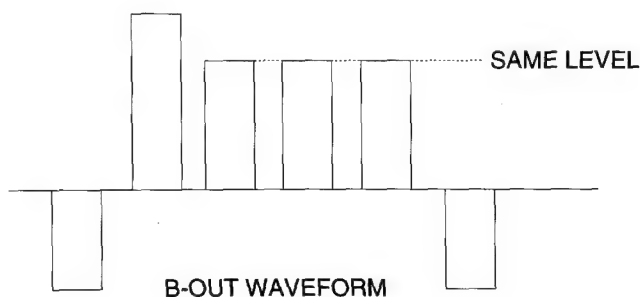
1. Input a Phillips pattern.
2. Enter into service mode and press 23.
3. Adjust data so that 0-IRE of grey scale and CUT-OFF 20-IRE are only slightly visible on screen.

**SUB CONTRAST ADJUSTMENT**

1. Input a video that contains a small 100% area on a Black Background.
2. Enter into service mode and press 01 to have PIC max followed by 21.
3. Connect oscilloscope to pin ① of CN703 (R OUT) and adjust HWB Red data of TDA8366 1 to obtain 2.3Vp-p.

**SUB COLOR ADJUSTMENT**

1. Input a PAL color bar signal.
2. Connect an oscilloscope to pin ③ of CN703 (B OUT) on the C board.
3. Enter into service mode and press 22.
4. Adjust data so that the right sides of the waveform are set to the same level.

**STEREO SEPARATION ADJUSTMENT**

1. Input a 1KHz stereo signal to the L-ch and a 400Hz stereo signal to the R-ch.
2. Enter into service mode and select the "Test Menu" to be TDA6612.
3. Select the Stereo Xtalk Adjustment Menu, by using the Red (Next) and Green (Previous) buttons.
4. Monitor the Scart 1 L-channel output and adjust the data so that the R-channel sound is not detected in the L-channel.

**I.F. COIL ADJUSTMENT (T101) - B/G, D/K, I AND L STANDARD FOR CONTINENTAL MODELS.**

1. Apply a 38.9MHz signal at 100dBuV to the input of SWF101.
2. Receive a channel so that the I.C. is selected for negative modulation.
3. Measure the voltage at the AFT test point and adjust (T101) to obtain 2.4V +/- 0.2V.

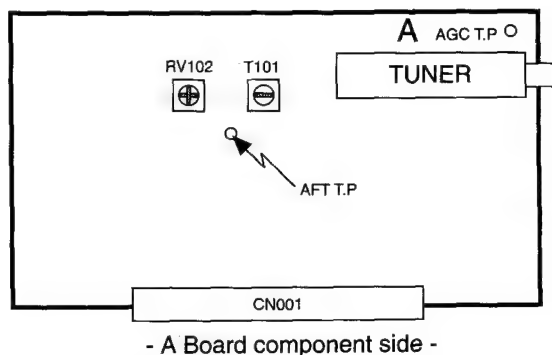
**L, BAND 1 ADJUSTMENT (RV102) - L, STANDARD FOR FRENCH MODELS.**

1. Apply a 33.95MHz signal at 100dBuV to the input of SWF101.
2. Receive a channel so that the I.C. is selected for positive modulation and system L band 1.
3. Measure the voltage at the AFT test point and adjust (RV102) to obtain 2.4V +/- 0.2V.

**Note :** Only adjust RV102 after T101 has been correctly adjusted.

**AGC ADJUSTMENT**

1. Receive an off- air signal.
2. Enter the service mode, ("Test" "Test") and 35.
3. Adjust the data so that there is no snow or cross - modulation visible on the screen.
4. Change the receiving off-air channel, and confirm the above status.

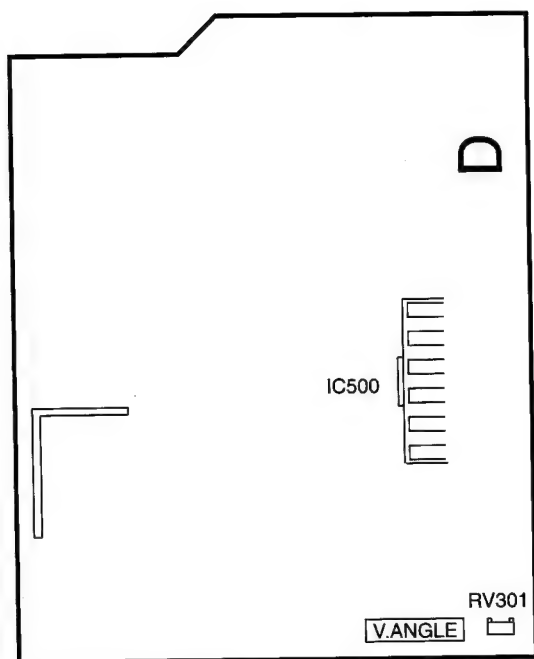


# DEFLECTION SYSTEM ADJUSTMENT

1. Enter into service mode.
2. Select and adjust each item in order to obtain the optimum image.

Item No	Adjustment item.	Data Amount
03	H SHIFT	ADJ.
04	H SIZE	ADJ.
05	PIN AMP	ADJ.
06	CORR PIN	ADJ.
07	TILT	ADJ.
08	V LINEAR	ADJ.
09	V SIZE	ADJ.
0A	S CORR	ADJ.
0B	V CENTER	ADJ.

Note : V ANGLE is adjusted by a Variable Resistor on the 'D' Board (RV301)

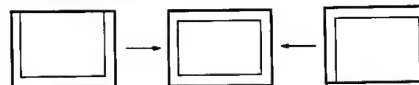


- D Board Component Side -

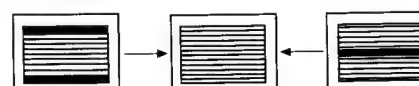
V SIZE



V CENTER



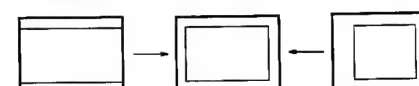
S CORR



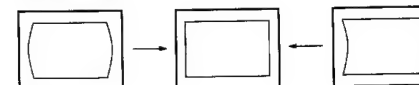
V LIN



H SIZE



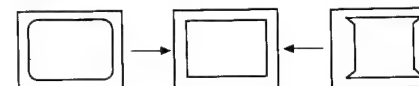
PIN AMP



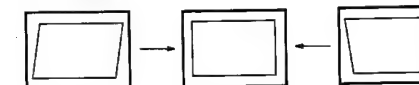
TILT



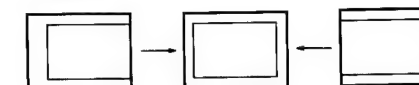
CORR PIN



V ANGLE



H SHIFT



### 4-3. BE-3C SELF DIAGNOSTIC SOFTWARE

The identification of errors within the BE-3C chassis is triggered in 1 of 2 ways :- 1: Bus busy or 2: Device failiure to respond to IIC. In the event of one of these situations arrising the software will first try to release the bus if busy (Failiure to do so will report with continous flashing LED) and then communicate with each device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the led (Series of flashes which must be counted) See Table 1., on fatal errors are reported with this method.

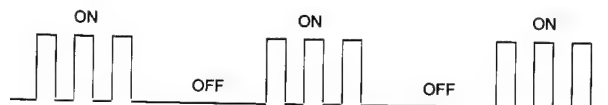
If a fatal error is found the set will simply stay in whichever state it was when the error ocured, but if a non fatal error occurs the set will try to continue operation.

**Table 1**

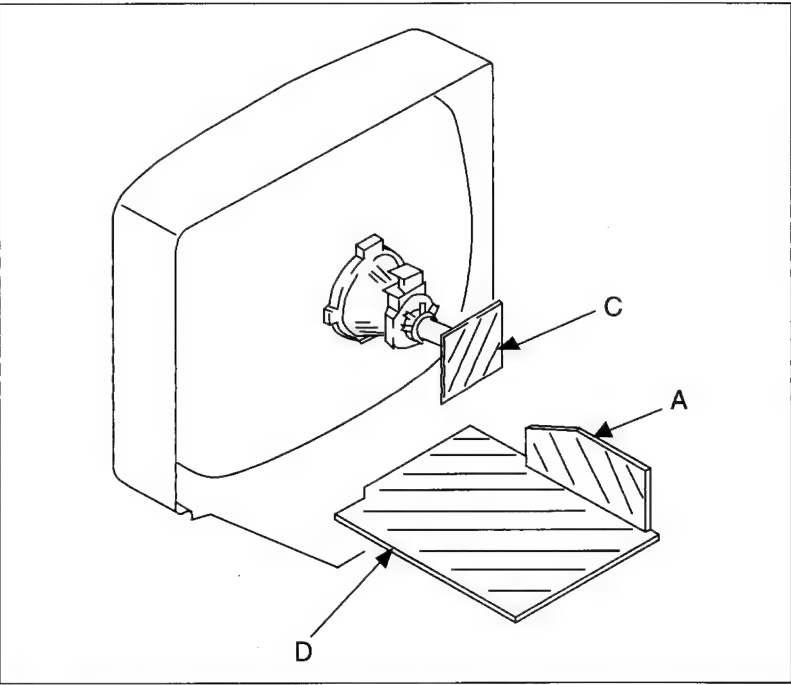
Device	LED Error Count	Fatal Error
NVM	2 .. 9	√
Teletext	10	
Jungle	11	√
Video_sw	12	
Tuner	13	√
Nicam	14	
Audio_cont	15	√

Flash Timing Example : e.g. error number 3.

Stby LED



5-2. CIRCUIT BOARDS LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note :

- All capacitors are in  $\mu\text{F}$  unless otherwise noted.  $\text{pF}$ :  $\mu\mu\text{F}$  50WV or less are not indicated except for electrolytic and tantalums.
- All resistors are in ohms.  
 $k = 1000$  ,  $M = 1000K$
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5 mm  
Rating electrical power  $\frac{1}{4}$  W

- : nonflammable resistor.
- : internal component.
- : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth - ground.
- : earth - chassis.
- : no mounted.

**Note :** The components identified by shading and marked are critical for safety. Replace only with the part number specified.

**Note :** Les composants identifiés par une trame et une marque sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

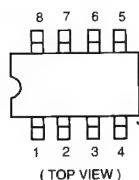
Reference information

RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
COIL	:	ADJUSTABLE RESISTOR
	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

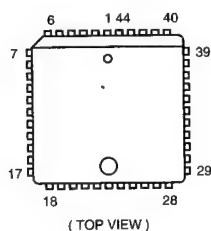
- Readings are taken with a colour-bar signal input.
- Readings are taken with 10M digital multimeter.
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- Circled numbers are waveform references.
- : B+ bus.
- : signal path. (RF)

## 5-4. SEMICONDUCTORS

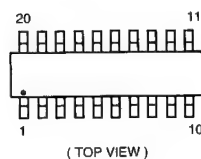
BA7046F



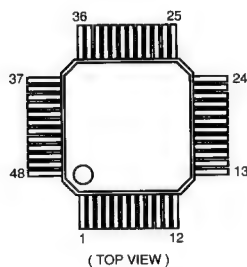
CF70200FN-R  
CF70203FN-F  
CF70205FN-R



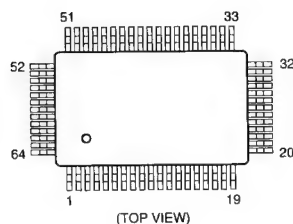
CF72416DW-R  
TDA8395T



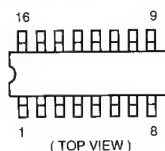
CXA1855Q



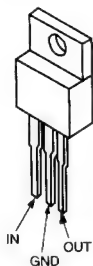
CXP85340A  
SAA7283T  
TDA8366T



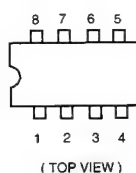
HD14053BFP  
MC14053BF



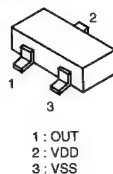
LM2940CT-5.0  
LM2940T-9.0  
MCT7812CT  
TA7812S  
 $\mu$ PC2405HF



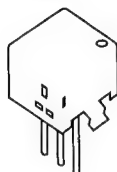
LM393P  
TDA2822M  
 $\mu$ PC393C



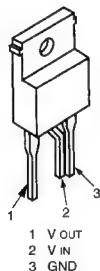
MN1382S



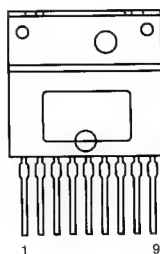
SBX1790-51



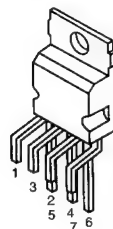
SE135N-LF12



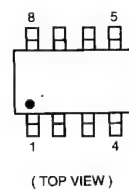
STR-S6708



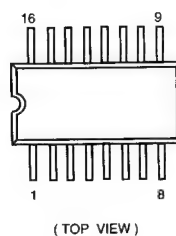
STV9379



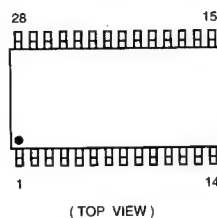
ST24E32M6TR



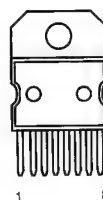
TDA4665T



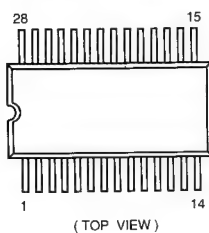
TDA6612-5X-GEG  
TDA6622-5X-GEG



TDA7264



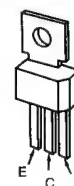
TDA9813T  
TDA9814T



TL750L05CLPR



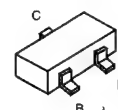
BF871



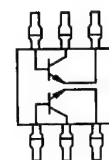
DTA144ES  
DTC114ES  
DTC143TS  
DTC144ES



DTC114EK  
DTC144EK  
2SA1037K  
2SA1162-G  
2SC2412K

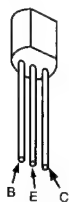


IMX1



JA101  
JC501  
2SA1091-O  
2SA733-K  
2SC2389S-R  
2SC2808S-R

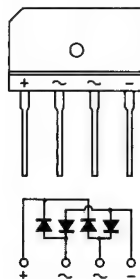


MPA502T  
2SC3779C

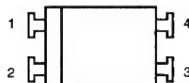
2SC4927-01



D4SB60L

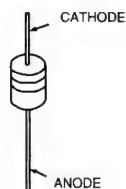
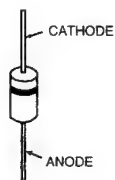
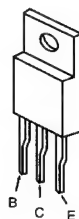


TLP721-GR

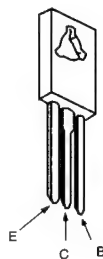


AU-01Z-V1 FML-G12S  
 EG-1Z-V1 GP08D  
 EGP20G RGP02  
 EL1Z RGP10GPKG23  
 EL1Z-V1 RGP15GPKG23  
 EM1-V1 RU3YX  
 EU-1-V1 RU4DS  
 EU-1Z

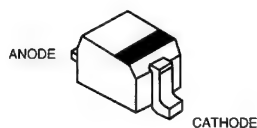
MTZJ-3.6A MTZJ-9.1C  
 MTZJ-3.9B RD3.9ESB2  
 MTZJ-5.1B RD5.1ESB2  
 MTZJ-5.6B RD5.6ESB2  
 MTZJ-6.8C RD6.8ESB2  
 MTZJ-7.5C RD7.5ESB2  
 MTZJ-9.1 RD9.1ESB3  
 MTZJ-9.1A 1SS133

2SA1667  
2SC3852A

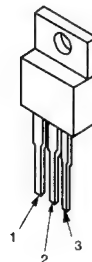
2SC2688-LK



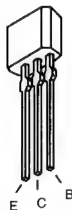
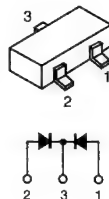
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 DTZ33B  
 MA8330  
 1SS355  
 1SV214



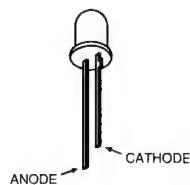
FMS-3FU



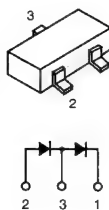
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DAN202K  
UMZ12N

SLA-570KT3F

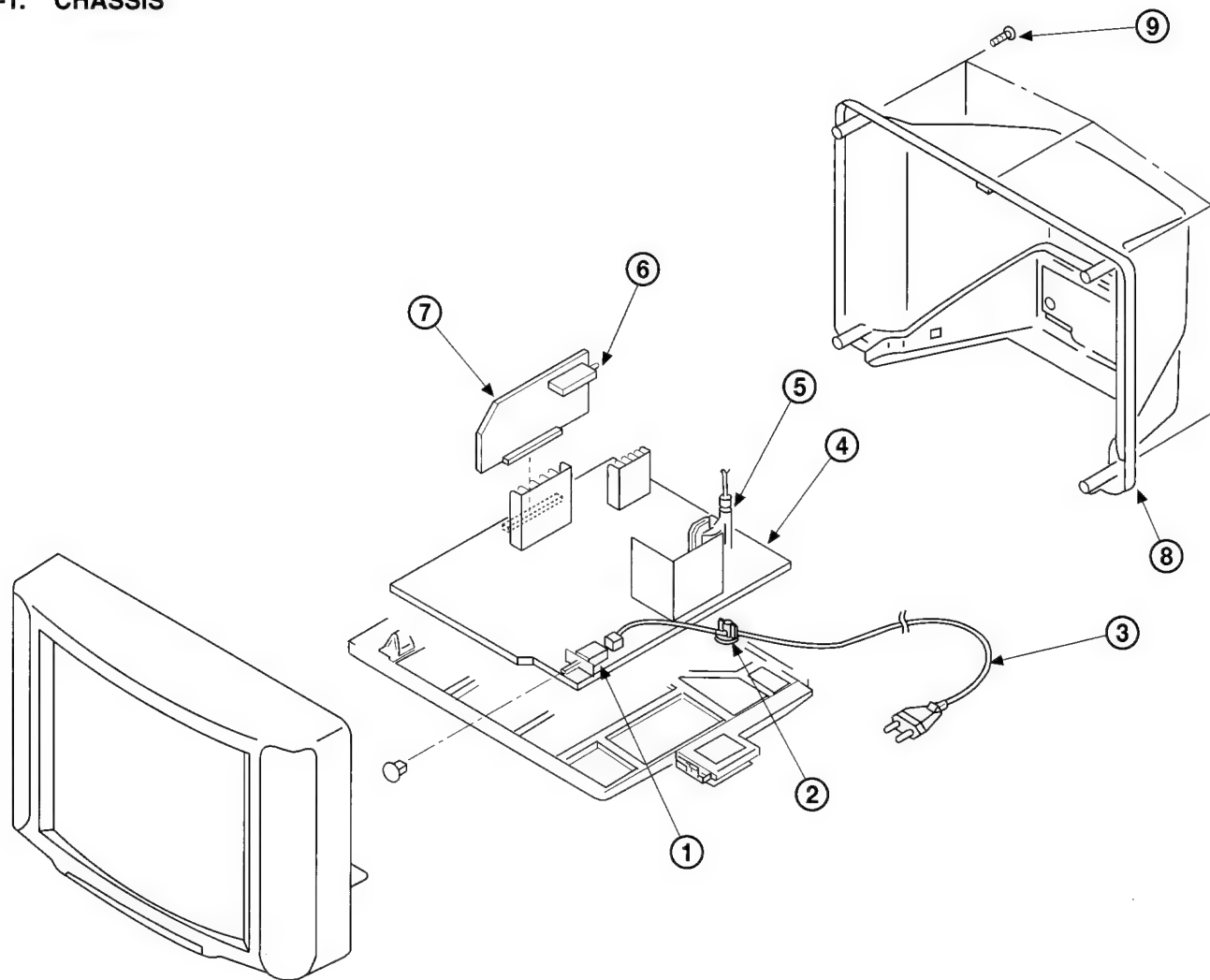
2SC4793  
2SD1763A

DA204K

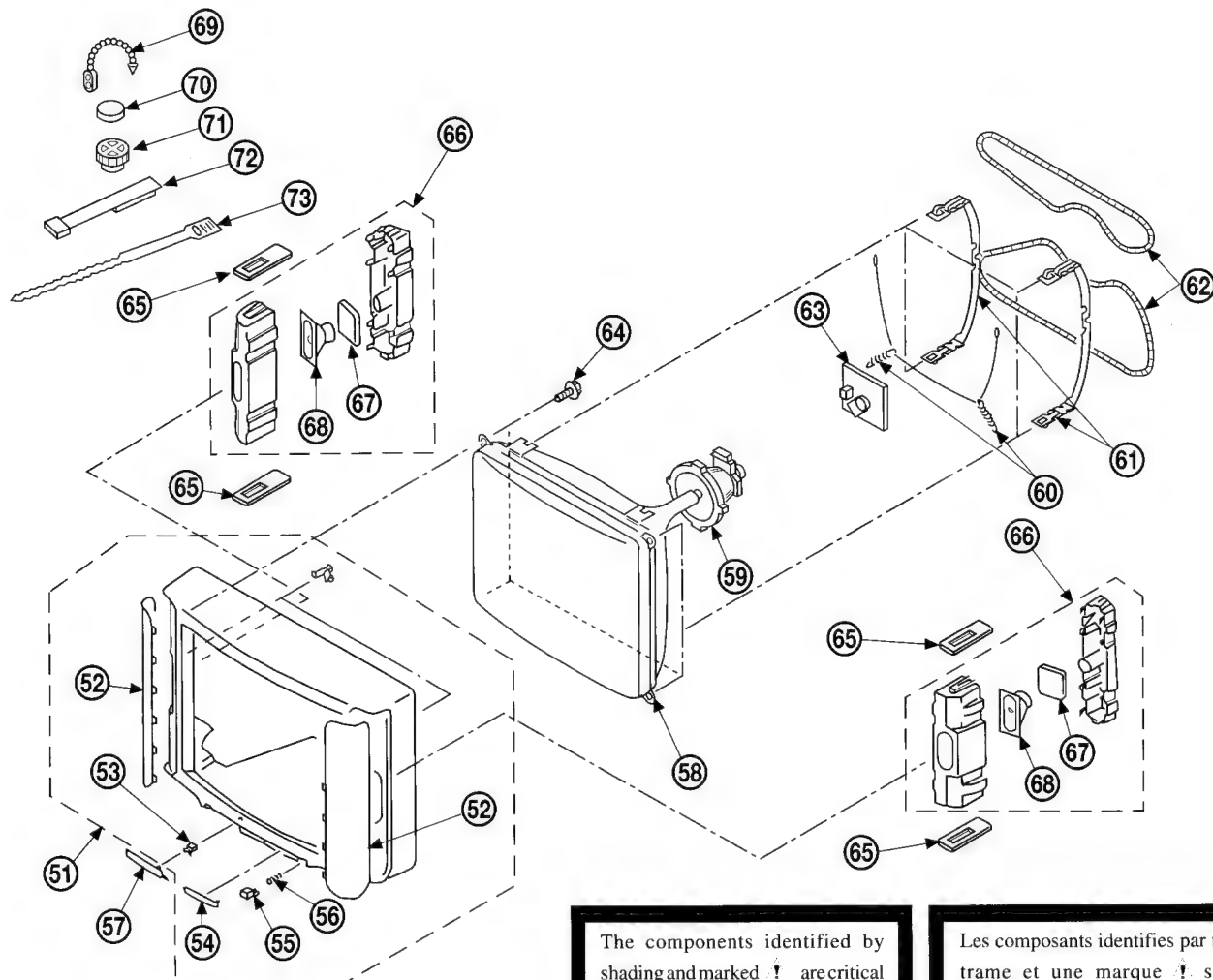




## 6-1. CHASSIS



## 6-2. PICTURE TUBE



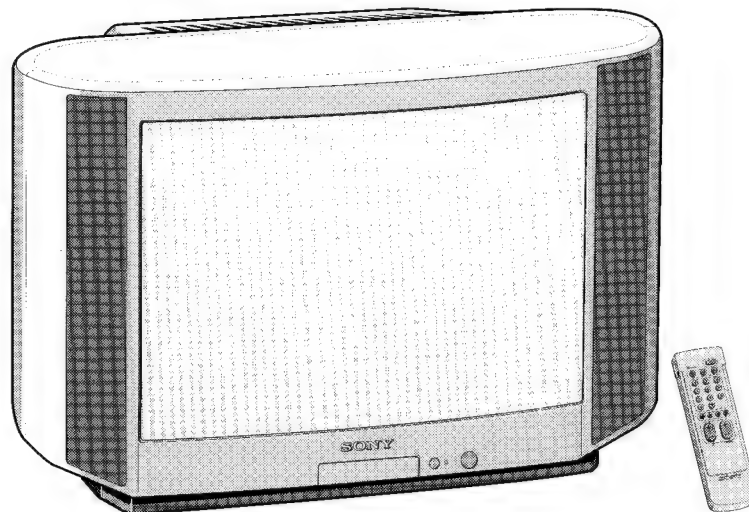
The components identified by shading and marked ! are critical for safety.  
Replace only with the part number specified.

Les composants identifiés par une trame et une marque ! sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

# SERVICE MANUAL

# BE-3C CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.	MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-C2901A	RM-833	Italian	SCC-G81N-A	KV-C2909D	RM-833	AEP	SCC-H62B-A
KV-C2903B	RM-833	French	SCC-G85L-A	KV-C2903E	RM-833	Spanish	SCC-G82M-A
KV-C2908B	RM-833	French	SCC-H61A-A	KV-C2908E	RM-833	Spanish	SCC-H63A-A
KV-C2909B	RM-833	French	SCC-H61B-A	KV-C2909E	RM-833	Spanish	SCC-H63B-A
KV-C2901D	RM-833	AEP	SCC-G77N-A	KV-C2901K	RM-833	OIRT	SCC-H68A-A
KV-C2908D	RM-833	AEP	SCC-H62A-A	KV-C2909K	RM-833	OIRT	SCC-H68B-A



TRINITRON® COLOR TV  
**SONY®**

ITEM MODEL	Television System	Stereo System	Channel Coverage	Color System
AEP	B/G/H, D/K	GERMAN Stereo	PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Italian	B/G/H	GERMAN Stereo	ITALIA VHF:A-H2 PAL B/G VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10	PAL NTSC4.43, NTSC3.58 (VIDEO IN)
French	B/G/H, L, I	GERMAN / Nicam Stereo	L VHF:F02-F10 UHF:F21-F69 CABLE:B-Q S21-S44 B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) I UHF:B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Spanish	B/G/H	GERMAN / Nicam Stereo	PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
OIRT	B/G/H, D/K	GERMAN Stereo	B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)

MODEL	Italian	French	AEP	Spanish	OIRT
Power Consumption	95W	118Wh	118Wh	119Wh	118Wh

## SPECIFICATIONS

Picture Tube Hi-Black Trinitron  
Approx. 72 cm (29 inches)  
(Approx. 68 cm picture measured diagonally)  
110° -deflection

### Input/Output Terminals

#### [REAR]

- ⊖1 21-pin Euro connector (CENELEC standard)
  - inputs for audio and video signals
  - inputs for RGB
  - outputs of TV video and audio signals
- ⊕2/⊖3 2 21-pin Euro connector
  - inputs for audio and video signals
  - inputs for S video
  - outputs for audio and video signals (selectable)

#### [FRONT]

- ⊖3 Video input - phono jack
- ⊖3 Audio inputs - phono jacks
- ⊖3S video input 4-pin DIN
- Ω Headphone jacks : stereo minijack
- Sound output 2 x 15W (Music power)
- Dimensions Approx. 794x567x530 mm
- Weight Approx. 44kg
- Supplied accessories RM-833 Remote Commander (1)  
IEC designation R6 battery (1)
- Other features NICAM, FASTEXT, TOPTEXT.

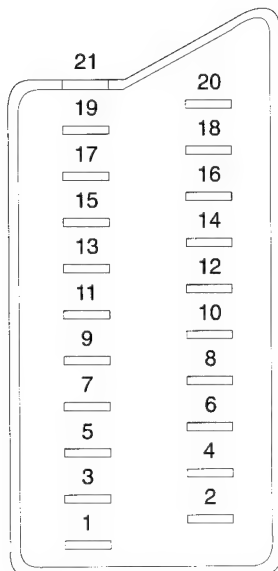
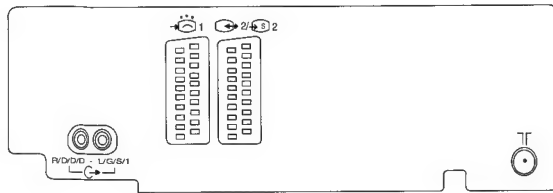
#### [RM-833]

- Remote control system infrared control
- Power requirements 1.5V dc  
1 battery IEC designation R6 (size AA)
- Dimensions Approx. 65x225x21 mm (w/h/d)
- Weight Approx. 157g (Not including batteries)

Design and specifications are subject to change without notice.

Model name Item	KV-C2901A	KV-C2903B KV-C2908B KV-C2909B	KV-C2901D KV-C2908D KV-C2909D	KV-C2903E KV-C2908E KV-C3909E	KV-C2901K KV-C2909K
Pal Comb	OFF	OFF	OFF	OFF	OFF
PIP	OFF	OFF	OFF	OFF	OFF
RGB Priority	ON	ON	OFF	OFF	OFF
Woofer Box	OFF	OFF	OFF	OFF	OFF
Scart 1	ON	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON	ON
Front in (3)	ON	ON	ON	ON	ON
Scart 4	OFF	OFF	OFF	OFF	OFF
Projector	OFF	OFF	OFF	OFF	OFF
AKB in 16:9 mode	ON	ON	ON	ON	ON
Norm B/G/H	ON	ON	ON	ON	ON
Norm I	OFF	ON	OFF	OFF	OFF
Norm D/K	OFF	OFF	ON	OFF	ON
Norm AUS	OFF	OFF	OFF	OFF	OFF
Norm L	OFF	ON	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF	OFF
Toptext	ON	ON	ON	ON	ON
Nicam Stereo	OFF	ON	OFF	ON	OFF
Language Preset	Italian	French	German	Spanish	OIRT

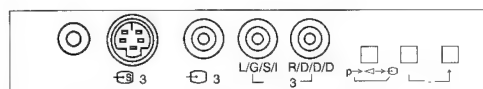
## 21 pin connector ( 1 2 4 )



Pin No.	1	2	4	Signal	Signal level
1	○	○	○	Audio output B (right)	Standard level : 0.5V rms Output impedance :Less than 1kohm*
2	○	○	○	Audio input B (right)	Standard level : 0.5V rms Output impedance :More than 10kohm*
3	○	○	○	Audio output A (left)	Standard level : 0.5V rms Output impedance :Less than 1kohm*
4	○	○	○	Ground (audio)	
5	○	○	○	Ground (blue)	
6	○	○	○	Audio input A (left)	Standard level : 0.5V rms Output impedance :More than 10kohm*
7	○	●	●	Blue input	0.7 ± 3dB, 75 ohms, positive
8	○	○	○	Function select (AV control)	High state (9.5 - 12V) : Part mode Low state (0 - 2V) : TV mode Input impedance : More than 10k ohms Input capacitance : Less than 2nF
9	○	○	○	Ground (green)	
10	○	○	○	Open	
11	○	●	●	Green	Green signal : 0.7 ± 3dB, 75 ohms, positive
12	○	○	○	Open	
13	○	○	○	Ground (red)	
14	○	○	○	Ground(blanking)	
15	○	—	—	Red input	0.7 ± 3dB, 75 ohms, positive
	—	○	○	(S signal) chroma input	0.3 ± 3dB, 75 ohms, positive
16	○	●	●	Blanking input (Ys signal)	High state (1 - 3V) Low state (0 - 0.4V) Input impedance : 75ohms
17	○	○	○	Ground(video output)	
18	○	○	○	Ground(video input)	
19	○	○	○	Video output	1V ± 3dB,75ohms,positive sync:0.3V(-3+10dB)
20	○	—	—	Video input	1V ± 3dB,75ohms,positive sync:0.3V(-3+10dB)
	—	○	○	Video input Y (S signal)	1V ± 3dB,75ohms,positive sync:0.3V(-3+10dB)
21	○	○	○	Common ground (plug, shield)	

○ Connected ● Not Connected (open) \* at 20Hz - 20kHz

Pin No	Signal	Signal level
1	Ground	
2	Ground	
3	Y (S signal) input	1V ± 3dB 75 ohm , positive Sync. 0.3V -3/+10 dB
4	C (S signal) input	0.3V ± 3dB 75 ohm , positive Sync.



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### CAUTION

**SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVAL OF THE ANODE CAP.**

### WARNING !!

AN ISOLATING TRANSFORMER SHOULD BE USED DURING ANY SERVICE WORK TO AVOID POSSIBLE SHOCK HAZARD, DUE TO A LIVE CHASSIS. THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

### SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY SHADING AND MARKED  ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLIMENTS PUBLISHED BY SONY.


### ATTENTION

**APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.**

### ATTENTION !!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE. LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

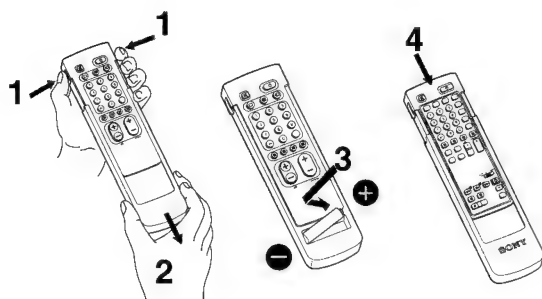
### ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ !!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET PAR UNE MARQUE  SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIÉCES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT, NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY.

## SECTION 1 GENERAL

# Getting Started

### Inserting the Battery Into the Remote Commander



Remove the cover.

Check the correct polarity.

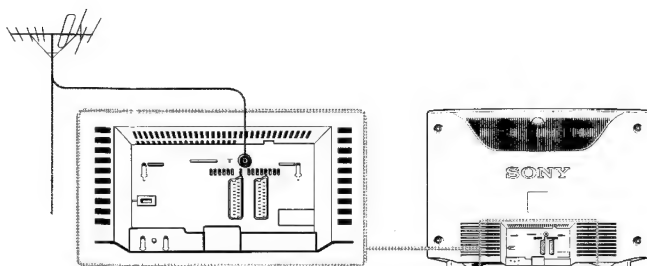
Refit the outside cover making sure that the Full Function side is visible.

### About Battery Life

Under normal operation, a battery will last up to half a year.

### Connecting the Aerial

Connect aerial to the socket at the rear of the TV. (cable not supplied)



### Choosing a Language

(See inside of front cover and back cover)

- 1 Depress **A** on the TV.  
The TV turns on. If the standby indicator **B** on the TV is lit, press **3** or any number button **4** on the Remote Commander.

- 2 Press **MENU** on the Remote Commander.  
The SELECT LANGUAGE screen appears.

**MENU**

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

- 3 Press one of the colour buttons on the Remote Commander to select a language (Press the white button to display other language alternatives). The SELECT LANGUAGE screen clears and all subsequent menus appear in the chosen language.

#### SELECT LANGUAGE

- ENGLISH
- DEUTSCH
- FRANÇAIS
- ESPAÑOL
- MORE

SELECT COL. BUTTON

**Note:** From the second time when you turn on the TV, the MENU screen appears instead of the SELECT LANGUAGE screen. Press the yellow button then press the white button to redisplay the SELECT LANGUAGE screen.

### Tuning in to Channels

You can tune in up to 100 channels to programme positions either automatically or manually.

auto tuning: A single button press allows all receivable channels to be tuned. Use if you are unfamiliar with the channel numbers of stations.

manual tuning: Use if you are familiar with the channel numbers of stations. (Channel numbers from the main UK transmitters are shown on page 13)

Choose the more appropriate way for you.

### Tuning in to Channels Automatically

There are two possibilities for auto tuning;

- A. On the TV: hold down **E** on the front of the TV for 2 seconds  
(All receivable channels are tuned in the order noted below).

or

- B. On the Remote Commander: as follows

- 1 Press **MENU** .
- 2 Press the white button .
- 3 Hold down the red button for 2 seconds,

**Note:** Press the green button to cancel.

Channels are automatically stored as follows:

Programme1	BBC1
Programme2	BBC2
Programme3	ITV
Programme4	CH4 or S4C

**Note:** Programme names are automatically taken from TELETEXT if available. If not, "----" is placed in the name.

- If you connect a VCR via the aerial cable, set the VCR to its test signal or play mode before auto-tuning.
- You may have to exchange the programme positions, if there are duplicated signals from local transmitters.



## Tuning in to Channels Manually

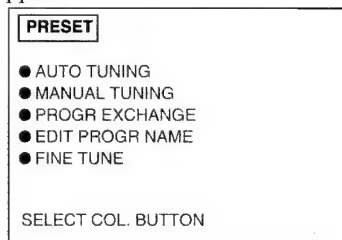
### 1 Press MENU [7].

The MENU screen appears.



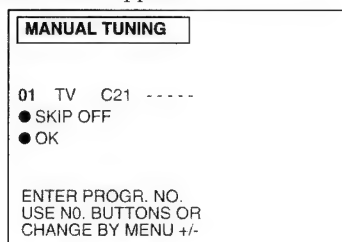
### 2 Press the white button [17] to select PRESET.

The PRESET screen appears.



### 3 Press the green button [17] to select MANUAL TUNING.

The MANUAL TUNING screen appears.

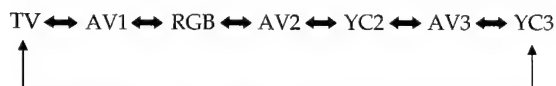
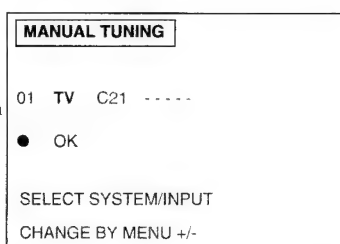


### 4 Press the number buttons [4] or MENU+/- [9] to select a programme position.

If you use the number buttons [4], enter a double-digit number. (e.g. for programme number 4, first press 0, then 4)

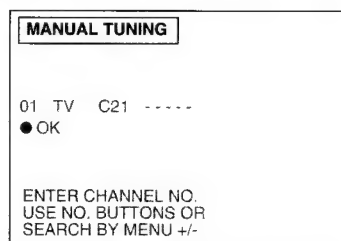
### 5 Press the green button [17].

**Note:** Use MENU +/- [9] to select "TV". You can alternatively select input sources which may be assigned to programme positions. The display changes as follows:



### 6 Press the green button [17].

**Note:** If a video input source is selected in step 5, this is now stored. Refer to step 4 to tune other programme positions.



### 7 Press the number buttons [4] or MENU+/- [9] to select the channel number.

If you use the number buttons [4], enter a double-digit number. (e.g. for channel 23, first press 2, then 3)

**Note:** Programme names are automatically taken from TELETEXT if available. If not, "-----" is placed in the name. Or if you select AV1, RGB, AV2, YC2, AV3 or YC3 as an input source, AV1, RGB, ... is placed.

### 8 Press the green button [17] to store.

**Note:** If you want to preset other channels, repeat steps 4 to 8.

### 9 Press MENU [7] twice to return to the normal screen.

**Note:** You can skip unused programme positions when selecting programmes with the PROGR +/- buttons [18]. Press the red button [17] to skip in step 4. However, the skipped programmes may still be called up when you use the number buttons.

## Basic TV Operations

### Turning the TV on and off

#### Turning on

Depress [A] on the TV.

#### Turning off temporarily

Press [10] on the Remote Commander.

The TV enters standby mode and the standby indicator [B] on the front of the TV lights up.

#### Turning on again

Press [3], PROGR +/- [18], or one of the number buttons [4] on the Remote Commander.

#### Turning off completely

Depress [A] on the TV.

**Note:** It is recommended to use [A] to turn off the TV. This could help you save energy.

### Selecting TV Programmes

Press PROGR +/- [18] or press number buttons [4].

#### To select a double-digit number

Press -/- [5], then the number buttons [4].

### Adjusting the Volume

Press +/- [19].

### Muting the Sound

Press [1].

To resume normal sound, press [1] again.

### Displaying the On-screen Indications

Press [14] once to display the on-screen indications.

Press again to make the indications disappear.

**Note:** If NICAM is transmitted regardless of whether it is stereo or mono, the two speaker symbol automatically appears on the screen for several seconds.

### Operating the TV Using the Buttons on the TV

With the buttons on the TV, you can adjust or select the functions as follows:

Press +/- [D] to adjust the volume.

Press P +/- [C] to select programme numbers or to turn the TV on from the standby mode.







Press [F] to select the input source.

Press [E] to preset channels automatically.

# Advanced TV Operations

## Operating the Menu System







You can adjust picture and sound, preset channels to programme positions and utilise other convenient features by using the following menu system.

Press;	to;
<b>1</b> MENU 	enter the MENU screen
<b>2</b> a colour button  <b>17</b>	select an item you want to change (The selected item is marked by a triangle.)
<b>3</b> MENU +/- 	change (or adjust) the contents of the item
<b>4</b> MENU 	return to the MENU screen
<b>5</b> MENU  again	return to the normal screen
Press MENU  once or twice whenever you want to return to the normal screen.	

**Note:** When selecting menus, the picture becomes darker. If, however, an item in the PICTURE ADJUSTMENT menu is selected, normal level of TV picture is restored to allow the best adjustment.





## Adjusting the Picture and Sound





Although picture and sound are adjusted at the factory you can adjust them to suit your own taste.

- 1** Press MENU .  
The MENU screen appears.
- 2** Press the red button  to select PICTURE or the green button  to select SOUND.
- 3** Press the respective colour button  to select an item.
- 4** Press MENU +/-  to adjust.
- 5** Press MENU  twice or wait until the menu displays disappear automatically to return to the normal screen.

## PICTURE ADJUSTMENT


(First Page)


PICTURE ADJUSTMENT	
▶ 	.....
● 	.....
● 	.....
● 	.....
● MORE	
SELECT COL. BUTTON ADJUST BY MENU +/-	


Press colour button	Effect
<b>Red:</b> For Picture 	Less — — More
<b>Green:</b> For Colour 	Less — — More
<b>Yellow:</b> For Brightness 	Darker — — Brighter
<b>Blue:</b> For Sharpness 	Softer — — Sharper
<b>White:</b>	Next page of PICTURE ADJUSTMENT

## PICTURE ADJUSTMENT

(Second Page)

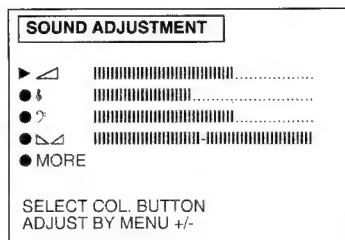
PICTURE ADJUSTMENT	
▶ COLOUR TONE NORMAL	
● FORMAT NORMAL	
● ROTATION NORMAL	
● 	.....
● BACK	
SELECT COL. BUTTON CHANGE BY MENU +/-	

Press colour button	Effect
<b>Red:</b> For Colour Tone	Normal -> Warm (reddish colour tone) -> Cool (blueish colour tone)
<b>Green:</b> For Format	Normal: Normal setting 16:9 Wide screen effect
<b>Yellow:</b> For Picture Rotation (only for KV-C29")	Normal: Normal setting -5 ~ +5: Adjusts the picture slant caused by the earth magnetism
<b>Blue:</b> For Hue control  (only for NTSC video signals)	Reddish — — Greenish
<b>White:</b>	Back to first page of PICTURE ADJUSTMENT

**Note:** Press  **8** on the Remote Commander to reset to the factory preset levels for picture and sound.

## SOUND ADJUSTMENT

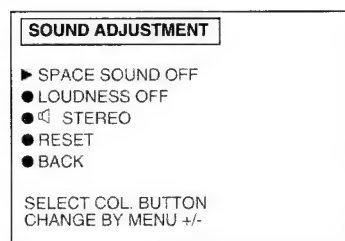
(First Page)



Press colour button	Effect
<b>Red:</b> For Volume	Less — — More
<b>Green:</b> For Treble	Less — — More
<b>Yellow:</b> For Bass	Less — — More
<b>Blue:</b> For Balance	More left - more right
<b>White:</b>	Next page of SOUND ADJUSTMENT

## SOUND ADJUSTMENT

(Second Page)



Press colour button	Effect
<b>Red:</b> For Space Sound	OFF: normal sound ON: for a special acoustic sound effect
<b>Green:</b> For Loudness	OFF: normal sounds ON: when listening to music broadcast
<b>Yellow:</b> For Stereo:	Stereo -> Mono A (left channel) -> Mono B (right channel) -> Mono
<b>Blue:</b> For Reset:	Resets to the factory preset levels for picture and sound
<b>White:</b>	Back to first page of SOUND ADJUSTMENT

**Note:** Press [8] on the Remote Commander to reset to the factory preset levels for picture and sound.

## Using Special Features

With your TV you can utilise special features such as Parental Lock or Sleep Timer.

### 1 Press MENU [7].

The MENU screen appears.



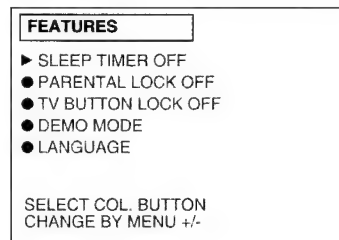
### 2 Press the yellow button [17] to select FEATURES.

### 3 Press the respective colour button [17] to select an item.

### 4 Press MENU +/- [9] to change.

### 5 Press MENU [7] twice or wait until the menu displays disappear automatically to return to the normal screen.

## FEATURES



Press colour button	Effect
<b>Red:</b> For Sleep Timer  (Automatic switch off function)	OFF -> 0:30 -> 1:00 -> 1:30 -> 2:00 (hours) After the selected time the TV set switches itself automatically into standby mode.
<b>Green:</b> For Parental Lock (For preventing children from watching programmes which you consider unsuitable)	OFF: Normal setting ON: The TV-channel you are watching is now blocked. In this way you can prevent undesirable broadcasts from appearing on the screen.
<b>Yellow</b> For TV Button Lock	OFF: Normal setting ON: The buttons on the TV do not function anymore. (The Remote Commander still operates)
<b>Blue:</b> For Demo Mode	ON: A sequence of menu pictures is displayed. Press any button on the Remote Commander to stop the function.
<b>White:</b> For Language	The SELECT LANGUAGE screen appears.

## Advanced Presetting Functions

### Exchanging Programme Positions

You can exchange the programme positions to a preferred order (example: exchange programme 09 (channel C21) with programme 15 (channel C24)).

- 1 Press **MENU** **[7]**.

The MENU screen appears.



- 2 Press the white button **[17]**.

The PRESET screen appears.

- 3 Press the yellow button **[17]**.

The PROGR EXCHANGE screen appears.

**PROGR EXCHANGE**

01 TV C21 -----

- NEXT CHANNEL
- LAST CHANNEL

- STORE

SELECT COL. BUTTON

- 4 Press the white button **[17]** repeatedly until the desired programme number (09) appears.

- 5 Press the red or the green button **[17]** repeatedly until the desired channel number (C24) appears.

- 6 Press the white button **[17]** to store.  
Now the exchange has been completed. Channel C24 is tuned in to programme 09 and channel C21 is tuned in to programme 15.

- 7 Press **MENU** **[7]** twice to return to the normal screen.

### Editing Programme Names

You can edit the programme names up to five letters.

- 1 Press **MENU** **[7]**.

The MENU screen appears.



- 2 Press the white button **[17]**.

The PRESET screen appears.

- 3 Press the blue button **[17]**.

The EDIT PROGR NAME screen appears.  
The first character flashes.

**EDIT PROGR NAME**

01 TV C21 -----

- NEXT LETTER
- STORE

CHANGE BY MENU +/-

- 4 Press **MENU**+/- **[9]** to edit the first letter.

The first letter changes as follows;

A ↔ B ↔ ... ↔ Z ↔ 0 ↔ 1 ↔ ... ↔ 9 ↔ "-" (space)

- 5 Press the red button **[17]** to move to the next letter.

- 6 Repeat steps 4 to 5, until the fifth letter is chosen.

- 7 Press the green button **[17]**.

The programme name is stored, and the normal screen appears. To edit another programme name, repeat steps 1 to 7.

### Fine Tuning

You can adjust the receiving condition by the FINE TUNE function.

- 1 Press **MENU** **[7]**.

The MENU screen appears.

- 2 Press the white button **[17]**.

The PRESET screen appears.

- 3 Press the white button **[17]** again.

The FINE TUNE screen appears.

**FINE TUNE**

- STORE
- EXIT/WATCH

ADJUST BY MENU +/-

- 4 Press **MENU**+/- **[9]** to adjust the receiving condition.

- 5 Press the red button **[17]** to store the adjustment, or press the green button **[17]** not to store.

Then the normal screen appears. If you have pressed the green button, the fine tuned condition is cancelled once you choose another programme.

### Tuning in to a Channel Temporarily

You can tune in to a channel temporarily, even when it has not been preset.

- 1 Press **C** **[16]** on the Remote Commander.

The indicator "C" appears on the screen.

- 2 Enter a double-digit channel number using the number buttons (e.g. for channel 23, first press 2, then 3).

The channel appears.

However, the channel is not stored.

## Teletext Operation

TV stations broadcast teletext programmes via the TV channels. For basic operation of teletext, use the simple side of the Remote Commander. For the advanced features of teletext, use the buttons indicated in green on the full function side of the Remote Commander.

### Basic Teletext Operation

#### Switching Teletext on and off

- 1 Select the channel which carries the teletext service you wish to view.

- 2 Press **[11]** to display Teletext.  
If no teletext signal is broadcast, the indication P100 is displayed on a black screen.



- 3 Input three digits for the page number using the number buttons **[4]**.

The numbers are displayed on the screen and the requested page appears in a few seconds.

**Note:** If you make a mistake, type in any three digits, then re-enter the correct page number.

- 4 Press **[3]** once or **[11]** twice to return to the TV mode.

**Note:** To change the teletext channels. First press **[3]** to return to the TV mode, then repeat steps 1 to 3.

**Note:** If the signal of a TV channel is weak, teletext errors may occur.

### Advanced Teletext Operation

#### Using Fastext

With Fastext you can access pages with one button press. When a Fastext page is broadcast, a colour-coded menu will appear at the bottom of the screen. The colours of this menu correspond to the red, green, yellow and blue buttons **[6]** on the Remote Commander.

Press the corresponding colour button **[6]** on the Remote Commander which corresponds to the colour-coded menu. The page will be displayed in a few seconds.

#### Requesting the Index page

Press **[17]**. The Index page appears.

#### Accessing the next or preceding page

Press **[18]** (PAGE +) or **[19]** (PAGE -). The next or the preceding page appears on the screen.

#### Superimposing the teletext display on the TV picture

Press **[11]** once if you are in text mode or press **[11]** twice if in TV mode.

To return to the normal teletext display press **[11]** twice.



#### Preventing a teletext page from being updated or changed

Press **[2]** (HOLD). The HOLD symbol (**[2]**) appears on the screen and the selected subpage is held until you press **[11]** to cancel.

#### Enlarging the teletext display

Press **[13]** once to enlarge the upper half. Press twice to enlarge the lower half. Press again to restore the normal display.



#### Revealing concealed information (e.g. answers to a quiz)

Press **[14]** (REVEAL). The information is revealed. Press **[14]** again to conceal the information.

#### Watching TV while waiting for a requested page to be displayed

- 1 Request a new teletext page.

- 2 Press **[12]** (TEXT CL).  
The TV programme is displayed and the symbol **[12]** is displayed at the top of the page.  
**Note:** When the requested page is available the page number is displayed at the top of the screen.

- 3 Press **[11]** to view the page.

**Note:** To cancel the request

Display the teletext page, then press **[11]**. The request is now cancelled. Press **[3]** to resume TV mode.

#### Using the Favourite Page system

You can store up to four of your favourite teletext pages per programme with the help of the Favourite page system. In this way you have quick access to the pages you watch frequently.

#### Storing the Favourite Pages

- 1 Select the page you would like to store using the number buttons **[4]**.
- 2 Press **[15]** twice.  
The colour prompts at the bottom of the screen flash.
- 3 Press any of the colour buttons **[6]** on the Remote Commander to store the selected page.  
The page is now stored on this button.

Repeat steps 1 to 3 for the other 3 pages available.

#### Displaying the Favourite pages

- 1 Press **[15]**.
- 2 Press the colour button **[6]** corresponding to the colour prompt onto which the desired page is stored.  
The page is requested. (It may take a few seconds to be received).

**Note:** Step 1 must be taken before every favourite page selection, otherwise the normal Fastext facility operates.

#### Using the Time Function in the TV mode

Press **[12]** to request the time. Press again to cancel the request.

**Note:** This function is available only when teletext is broadcast.

## Connecting Other Equipment

You can connect optional audio/video equipment to this TV such as VCRs, video disc players, cameras or stereo systems.

Connector	Acceptable input signal	Available output signal
1 <b>M</b> (AV1/RGB)	Audio/video and RGB signal	Audio/video signal from TV Tuner
2 /  2 <b>L</b> (AV2) (YC2)	Audio/video and S video signal	Audio/video signal from selected source
3 /  3 <b>G H</b> (AV3)	Audio/video signal and	No outputs
3 /  3 <b>G I</b> (YC3)	Audio/S video signal	

To watch a video input picture, press 2 until the desired video input appears.

To return to the normal TV picture, press 2 repeatedly or press 3.

**Note:** If you have a decoder, connect it to 1 **M**.

### Connecting a VCR Using the TV Aerial Terminal

Connect the aerial output of the VCR to the aerial terminal **K** of the TV. It is recommended to tune in the VCR signal to programme number "0". For details, see "Tuning in to Channels Manually" on page 6.

**Note:** S video input (Y/C input) 1 **L**

Video signals may be separated into Y (luminance or brightness) and C (chrominance) signals.

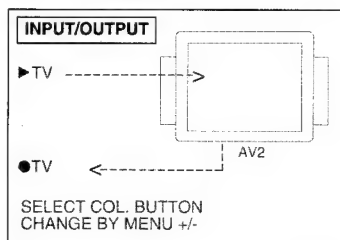
Separating the Y and C signals prevents them from interfering with each other and therefore improves the picture quality (especially luminance). This TV is equipped with 2 video input terminals through which these signals can be input directly.

## Checking and Selecting the Input and Output Sources Using the Menu

You can display a menu screen to see which input and output source are selected. You can also change the selection using this menu.

### Checking the Input and Output Sources

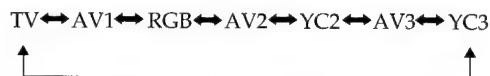
- 1 Press **MENU** 7.  
The MENU screen appears.
- 2 Press the blue button 17 to select INPUT/OUTPUT.  
The INPUT/OUTPUT screen appears.



### Selecting an Input Signal

Press the red button 17 to select INPUT. Press **MENU** +/- 9 to select the desired input source.

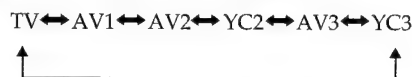
You can select among the following sources:



### Selecting an Output Signal

The 2 / 2 **L** connector outputs the source input from the other connectors. Press the green button 17 to select OUTPUT. Press **MENU** +/- 9 to select the desired output source.

You can select among the following sources:



**Note:** Press **MENU** 7 twice or wait until the menu displays disappear automatically to return to the normal screen.

## Remote Control of Other Sony Equipment

You can use the TV Remote Commander to control most Sony remote-controlled video equipment such as: Beta, 8mm or VHS VCRs or video disc players.

### Tuning the Remote Commander to the equipment

- 1 Set the VTR 1/2/3 MDP selector 20 according to the equipment you want to control:

VTR 1: Beta VCR  
VTR 2: 8mm VCR  
VTR 3: VHS VCR  
MDP: Video Disc Player

- 2 Use the buttons 21 to operate the additional equipment.

**Note:** If your video equipment is furnished with a COMMAND MODE selector: set this selector to the same position as the VTR 1/2/3 MDP selector on the TV Remote Commander.

**Note:** If the equipment does not have a certain function, the corresponding button on the Remote Commander will not operate.

**Note:** When you use the (record) button, make sure to press this button and the one to the right of it simultaneously.

## Using Headphones

You can utilise headphones. Connect them to the headphone jack **J** to mute the sound from the speakers.

**Note:** You cannot control the sound adjustment except for volume.


## Troubleshooting

**No picture (screen is dark), no sound**

- Poor or no picture (screen is dark), but good sound**

- Good picture but no sound**

- ## No colour for colour programmes

- Press **MENU** **[7]** to enter the MENU screen, and press the red button **[17]**, then adjust .

### Remote Commander does not function

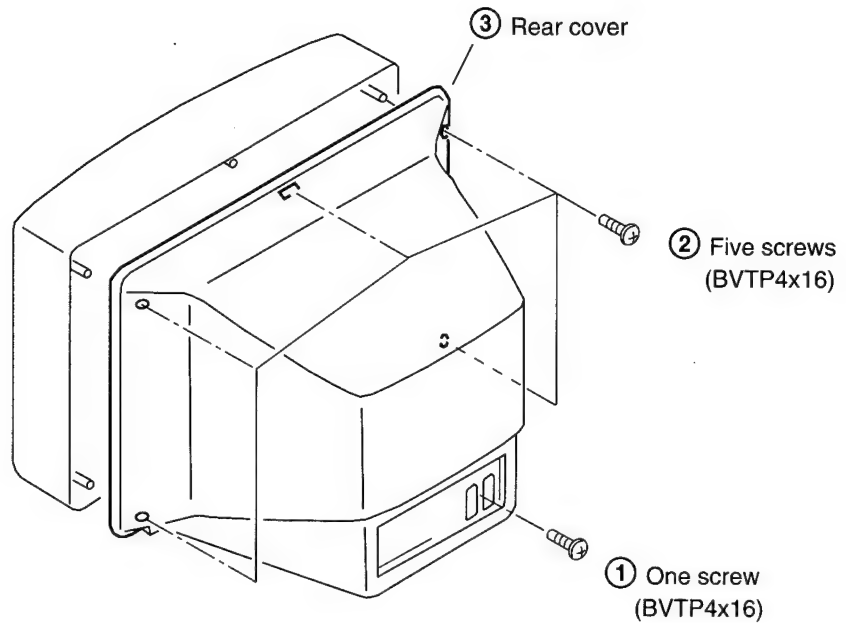
- Replace the battery.

If you continue to have problems, have your TV serviced by qualified personnel. Never open the casing yourself.

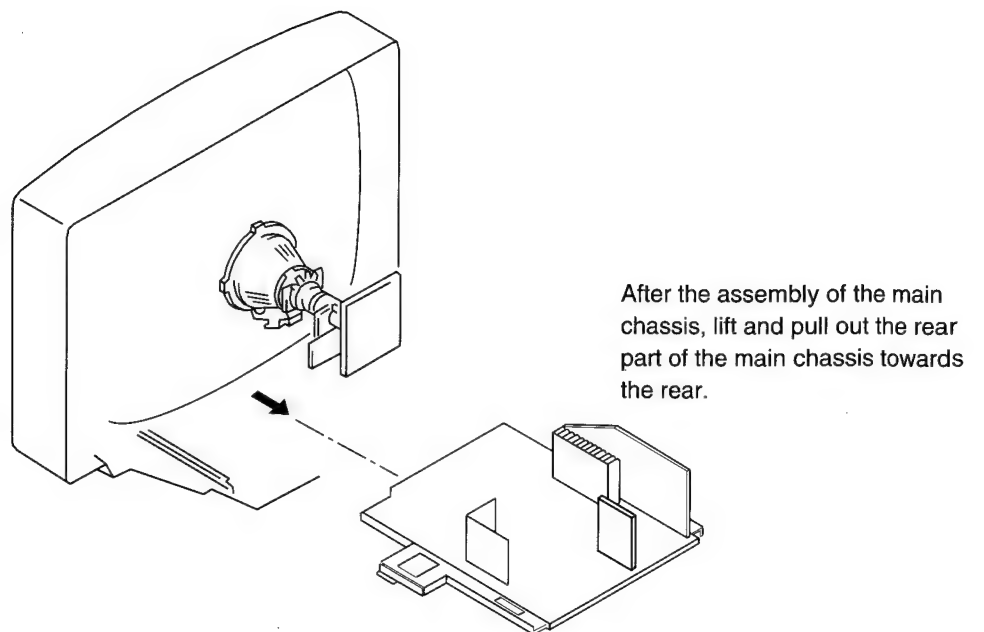


## SECTION 2 DISASSEMBLY

### 2-1. REAR COVER REMOVAL

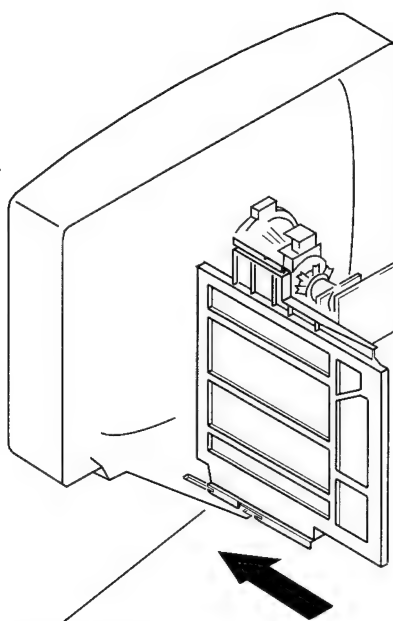


### 2-2. CHASSIS ASSY REMOVAL



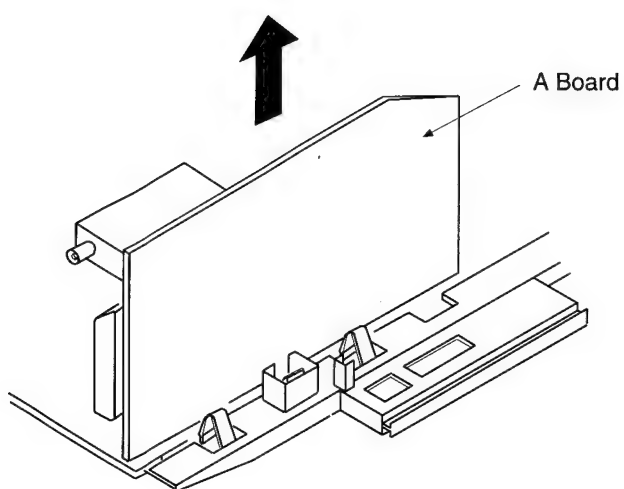


### 2-3. SERVICE POSITION

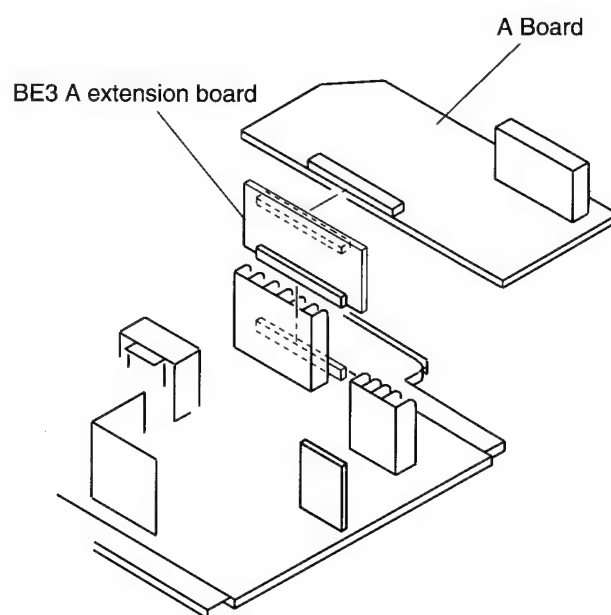


Locate the 2 slots on the edge of the chassis bracket in the locating holes and slide in the direction of the arrow

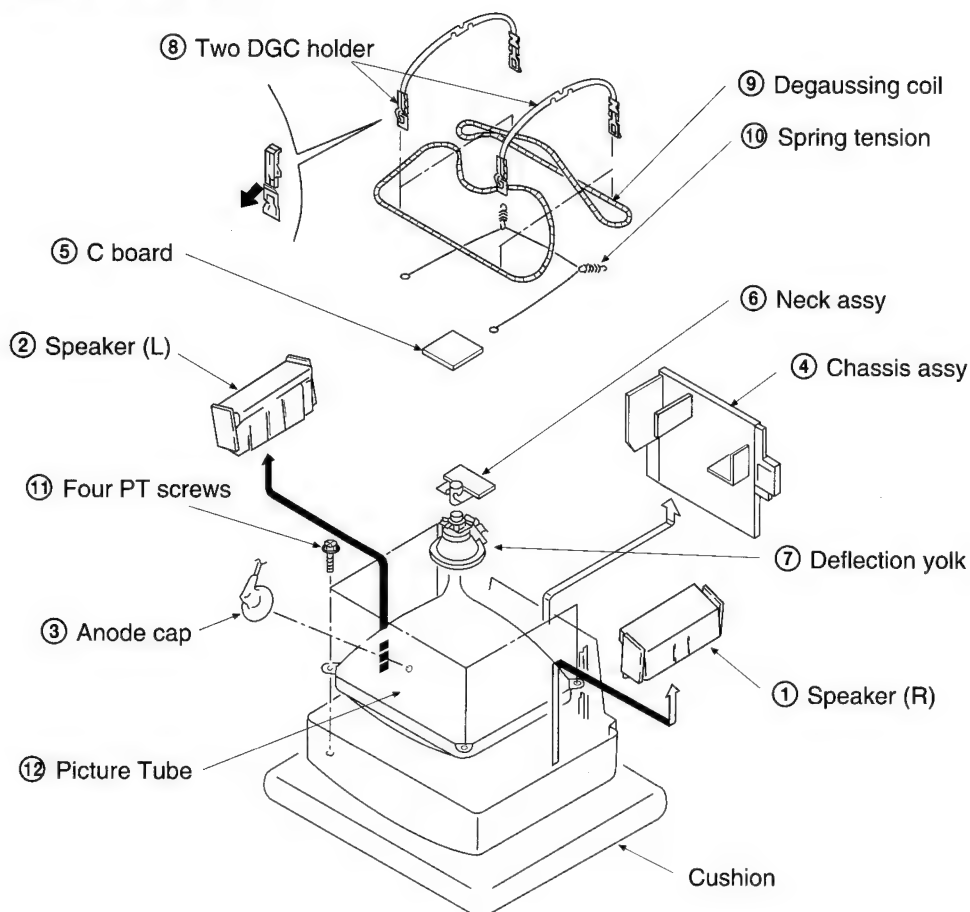
### 2-4. A BOARD REMOVAL



### 2-5. EXTENSION BOARD



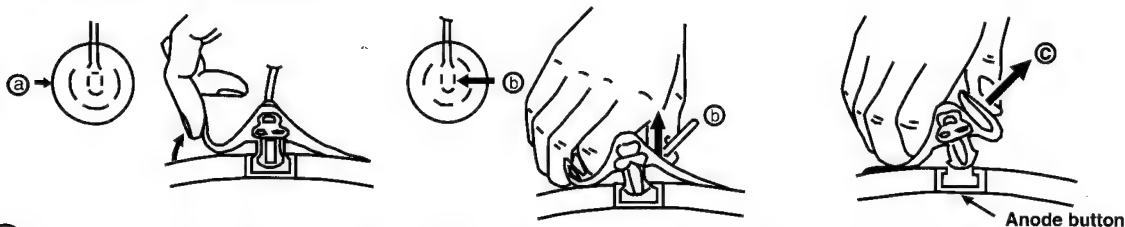
## 2-6. PICTURE TUBE REMOVAL



### • REMOVAL OF ANODE-CAP

**Note:** Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

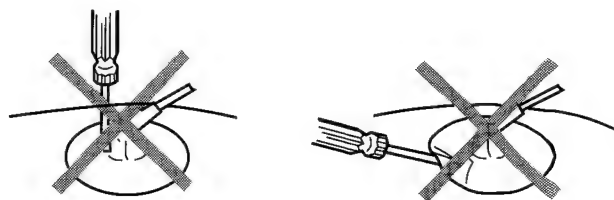
#### \* REMOVING PROCEDURES.



- ① Turn up one side of the rubber cap in the direction indicated by the arrow **a**
- ② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow **b**
- ③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling it up in the direction of the arrow **c**

#### • HOW TO HANDLE AN ANODE-CAP

- ① Don't damage the surface of anode-cap with sharp shaped material !
- ② Don't press the rubber hardly not to hurt inside of anode-caps !  
A metal fitting called as shatter-hook terminal is built into the rubber.
- ③ Don't turn the foot of rubber over hardly !  
The shatter-hook terminal will stick out or damage the rubber.



## SECTION 3

### SET - UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there are specific instructions to the contrary, carry out these adjustments with the rated power supply.
- Unless there are specific instructions to the contrary, set the controls and switches to these settings :

● Contrast ..... 80% (or remote control normal)  
 ☆ Brightness ..... 50%

- Carry out the following adjustments in this order :

1. Beam landing
2. Convergence
3. Focus
4. White balance

**Note:** Testing equipment required.

1. Color bar/pattern generator
2. Degausser
3. DC power supply
4. Digital multimeter
5. Oscilloscope

#### Preparation:

- In order to reduce the influence of geomagnetism on the set's picture tube, face it east or west.
- Switch on the set's power and degauss with the degausser.

#### 3-1. BEAM LANDING

1. Input the white signal with the pattern generator.  
 CONTRAST } normal  
 BRIGHTNESS }
2. Position neck assy as shown in Fig.3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke forward and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side. (See Fig. 3-1 - 3-3)
5. Move the deflection yoke forward and adjust so that the entire screen becomes red. (See Fig. 3-1)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it. (See Fig. 3-4)

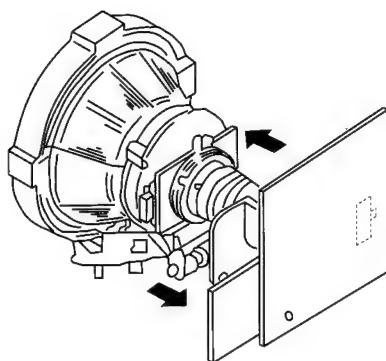


Fig. 3-1

Fig. 3-2

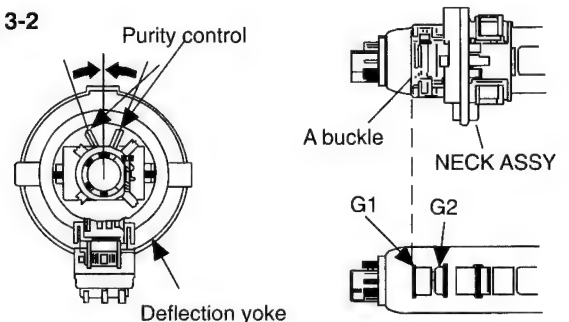


Fig. 3-3

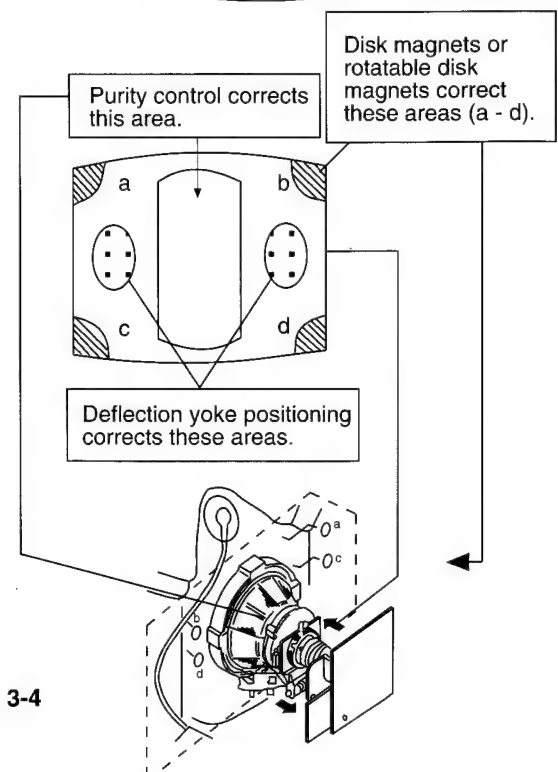
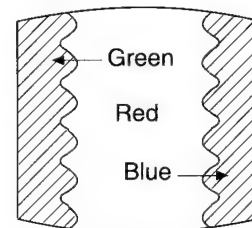


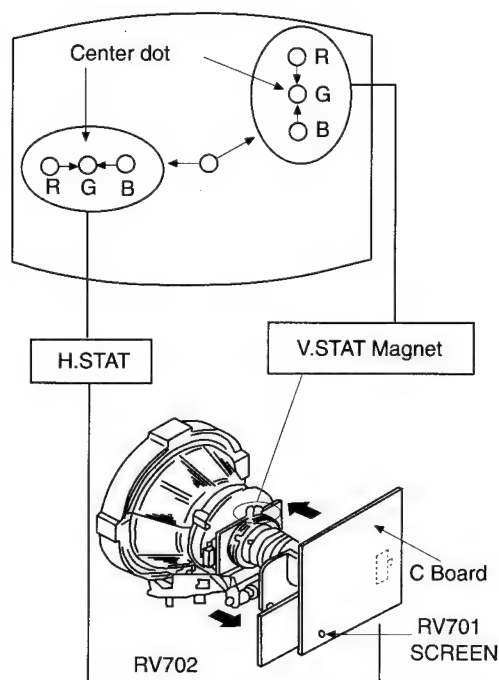
Fig. 3-4

## 3-2. CONVERGENCE

### Preparation:

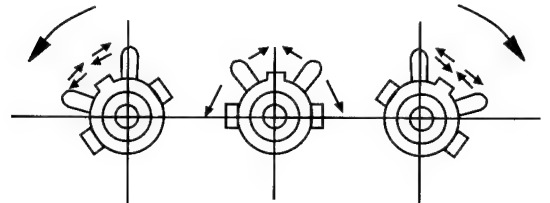
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide a dot pattern.

### (1) Horizontal and vertical static convergence

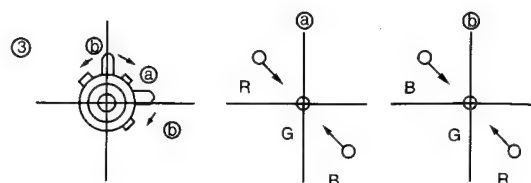
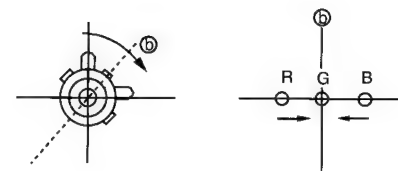
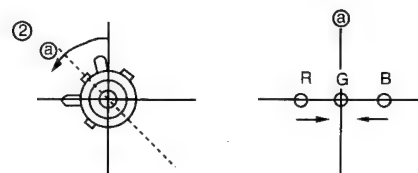
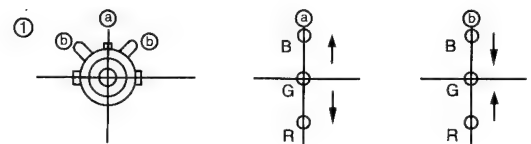


1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V.STAT magnet in the manner given below.  
(In this case, the H.STAT variable resistor and the V.STAT magnet influence each other)

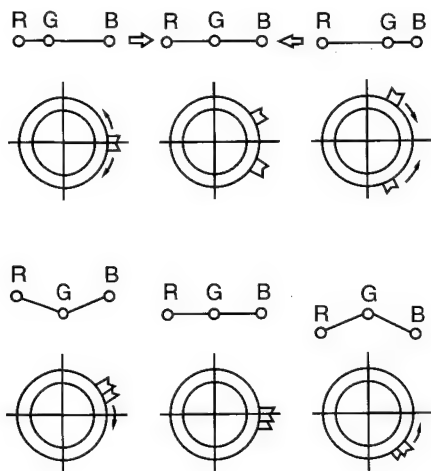
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.



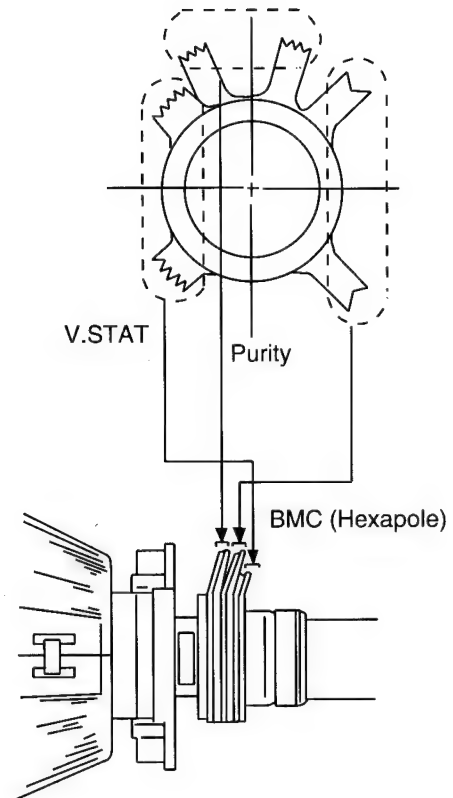
4. If the V.STAT magnet is moved in the direction of the (a) and (b) arrows, the red, green, and blue points move as shown below.



- Operation of BMC (Hexapole) Magnet



- The respective dot position resulting from moving each magnet interact, so be sure to perform adjustment while tracking.  
Use the H. STAT VR to adjust the red, green, and blue dots so they coincide at the center of the screen (by moving the dots in the horizontal direction).

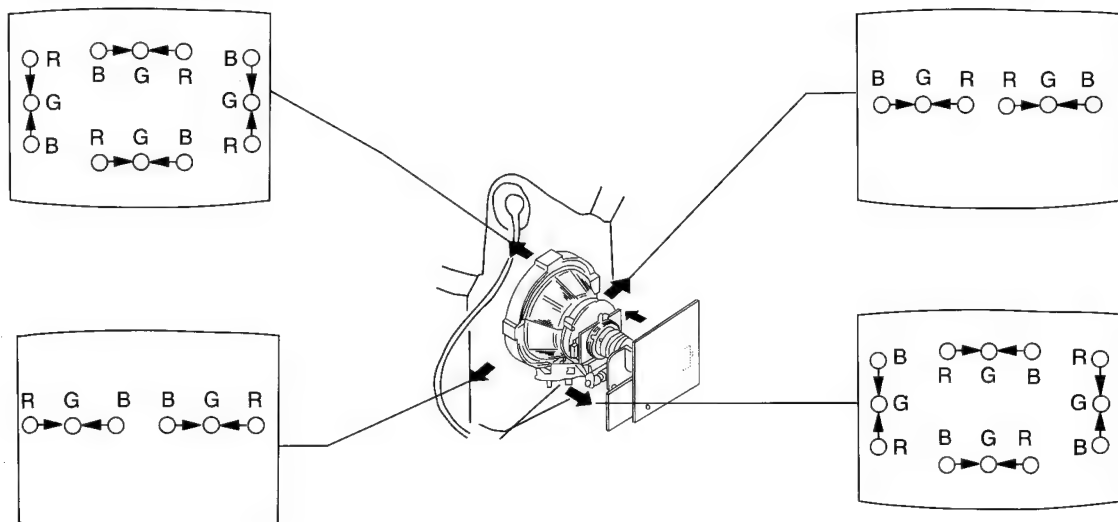


## (2) Dynamic convergence adjustment.

### Preparation:

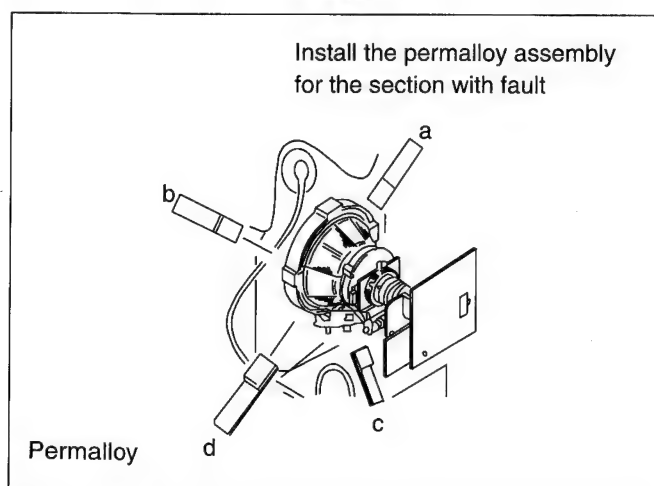
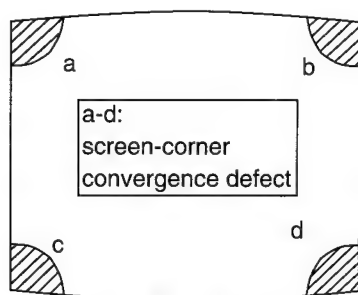
- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.
1. Slightly loosen the deflection yoke screws.

2. Remove the deflection yoke spacer.
3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Re-install the deflection yoke spacer.



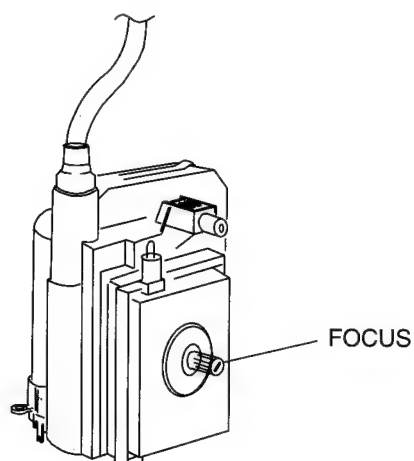
### (3) Screen corner convergence.

If you are unable to adjust the corner convergence properly, correct them with the use of permalloy assemblies.



### 3-3. Focus

Adjust the focus to optimize the screen.



### 3-4. WHITE BALANCE

#### Screen G2 Setting

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 180V DC to the R,G, and B cathodes with an external power supply.
4. While watching the picture, adjust G2 control RV701 (Screen) to the point just before the return lines disappear.

#### White balance adjustment

1. Receive an all-white signal.
2. Enter into service mode. (Refer to the section 4 "Electrical Adjustment" on how to enter service mode.)
3. Select TDA8366 1 on menu.

DEVICE : TDA8366 1

STAT : 12

☐ NEXT  
☐ PREVIOUS  
☐ OK

USE COLOUR KEYS  
SONY TEST MENU.

4. Press the White button on the Remote Commander to enter into the device Menu.
5. Press the Red button 10 times "Next" "Next" "Next" to select HWB RED, adjust to 32.
6. Press the Red button to select HWB GREEN, adjust with the + and - menu buttons so that the white balance becomes optimum.
7. Press the Red button to select HWB BLUE, adjust with the + and - menu buttons so that the white balance becomes optimum.
8. Press the TV button twice on the Remote Commander to store the data and return to TV operation.

## SECTION 4

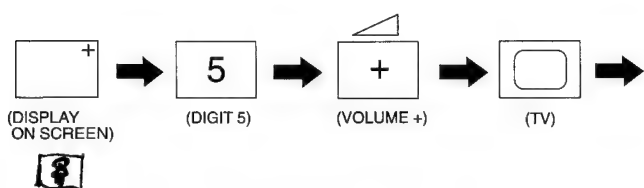
### CIRCUIT ADJUSTMENTS

#### 4-1. ELECTRICAL ADJUSTMENTS

Service adjustment to this model can be performed with the supplied remote commander RM-833.

##### HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power switch of the set and enter into standby mode.
2. Press the following sequence of buttons on the Remote Commander.



“TT” will appear in the top right corner of the screen.  
Other status information will also be displayed.

3. Press the MENU button on the Remote Commander to obtain the menu on the screen.

DEVICE NAME

STAT : xxxx

☐ NEXT

☐ PREVIOUS

☐ OK

USE COLOUR KEYS  
SONY TEST MENU.

4. Press the Red (Next) and Green (Previous) buttons to select the device corresponding to the adjustment item from the table. Then press the White button (OK).

DEVICE NAME

00 ADJUSTMENT : xxx

☐ NEXT

☐ PREVIOUS

SELECT COL.BUTTON  
CHANGE BY MENU +/-

5. Press the Red (Next) or Green (previous) buttons to select the adjustment item. Then press the and buttons to change the data to comply with each standard.
6. Turn off the power to quit the service mode when adjustments are completed.

Initial Conditions for setup of TDA8366, TDA6612 and SAA7283. ( Stereo Models Only )

TDA8366 1	INIT VALUE	TDA8366 2	INIT VALUE
Hue	31	Interlace	00
H Shift	Adj	Sync Mode	00
H Size	Adj	Col Dec	00
Pin Amp	Adj	Vert Div	00
Corn Pin	Adj	Vid ID	00
Tilt	Adj	EHT Track	01
V.Linear	Adj	En V Grd	00
V.Size	Adj	Serv Blk	00
S.Corr	Adj	OVP Mode	00
V.Cent	Adj	Aspect R	00
HWB Red	Adj	Start Freq	00
HWB Green	Adj	Y/C Input	00
HWB Blue	Adj	PAL/NTSC	00
Peaking	8	Xtal PLL	00
Bright	32	Y Delay	07
Colour	32	RGB Blk	00
Picture	37	Noise Cor	00
AGC Set	00	Fast Blk	01
Srce Sel 1	00	AFC Wind	00
Srce Sel 2	00	IF Sensty	00
Time Con	03	Mod Std	00
Xtal Ind	03	Vid Mute	01
FF Freq	02		

TDA6612	INIT VALUE	TDA6612	INIT VALUE
MPX Per	00	Mute 2	01
Quasi St	00	C1/2LS	00
Bass Exp	00	C1/2KH	00
H Pulse	00	Mono	01
Matrix St	00	Scart	00
Bypass	00	Scart D	00
Vol L Sp	07	AM	00
Vol R Sp	07	SAA7283	INIT VALUE
Vol HP	00	Mon M1/M2	01
PII Sync	00	DM Select	01
Mute 3	01	SSWIT 123	07
Treble	08	Port 2	00
Bass	09	Mute Def	00
X Talk Adj	Adj	AMDIS	00
Mute 1	00	E Max	80
		E Min	01

## 4-2. TEST MODE 2 :

Is available by pressing Test button twice, OSD 'TT ' appears. The functions described below are available by pressing the two numbers. To release the Test Mode 2, press 0 twice, or switch the TV into Stand-by Mode.

00	switch Test Mode 2 off
01	picture maximum
02	picture minimum
03	Volume 35%
04	Volume 50%
05	Volume 65%
06	Volume 80%
07	Ageing Condition (Volume min., Picture max., Brightness max.
08	Shipping Condition (Analog Values are RESET due to factory setting, Prog 1 is selected, TT Mode is switched off)
09	"Menu" Flag request
10	Tenth entry is deleted
11	dummy
12	dummy
13	dummy
14	Forced AV 16:9 detection on/off
15	Read factory setting from NVM Reads Volume, Balance, Treble, Bass, Brightness, Contrast, Hue, Sharpness, Colour values from ROM to the actual used values (Last Power Memory)
16	Save actual used values as RESET values Memorize actual used values Balance, Treble, Bass, Hue, Sharpness at RESET position in NVM.
17	Preset Label for AV Sources
18	RGB Priority on/off
19	Clear all preset labels
20	Tenth entry is deleted
21	Sub Contrast
22	Sub Colour
23	Sub Brightness
24	Set destination = U RGB Priority = Off
25	Set destination = D RGB Priority = Off
26	Set destination = B RGB Priority = On
27	Set destination = K RGB Priority = Off
28	Set destination = L RGB Priority = Off
29	Set destination = E RGB Priority = Off

30	Tenth entry is deleted
31	Set Destination = A RGB Priority = On
32	dummy
33	Auto AGC
34	N/S Pin Adjust
35	Manual AGC Adjust
36	dummy
37	dummy
38	To Activate Rotation Coil Adjustment
39	Check Rotation Coil Adjustment
40	Tenth entry is deleted
41	Re-initialise NVM
42	Production use only
43	Initialise Geom Settings
44	Initialise all favorite pages = 100
45	Channel locks = off
46	IR Channel Presetting Mode The channel presetting can be done by a Special IR Transmitter ( Ver 2 and above software only)
47	dummy
48	Set NVM testbyte to 44h
49	Erase the NVM Testbyte (this byte detects already stored NVM's) After selecting this function, switch TV Off and On -> the NVM will be preset by $\mu$ -Controller.

In Test Mode the Menu display is switchable by the Speaker-Off button.

**Note :** For Test Modes 41 - 49 it is necessary to ensure that the TV is set to Prog 59.



### SUB BRIGHTNESS ADJUSTMENT

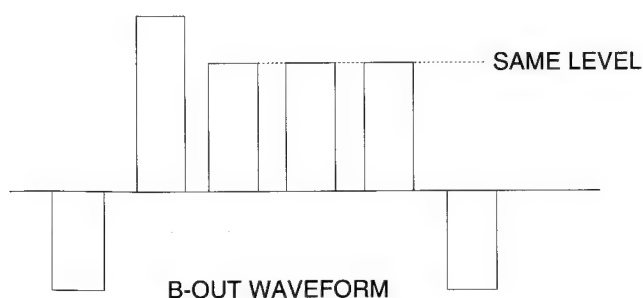
1. Input a Phillips pattern.
2. Enter into service mode and press 23.
3. Adjust data so that 0-IRE of grey scale and CUT-OFF 20-IRE are only slightly visible on screen.

### SUB CONTRAST ADJUSTMENT

1. Input a video that contains a small 100% area on a Black Background.
2. Enter into service mode and press 01 to have PIC max followed by 21.
3. Connect oscilloscope to pin ① of CN703 (R OUT) and adjust HWB Red data of TDA8366 1 to obtain 2.3Vp-p.

### SUB COLOR ADJUSTMENT

1. Input a PAL color bar signal.
2. Connect an oscilloscope to pin ③ of CN703 (B OUT) on the C board.
3. Enter into service mode and press 22.
4. Adjust data so that the right sides of the waveform are set to the same level.



### STEREO SEPARATION ADJUSTMENT

1. Input a 1KHz stereo signal to the L-ch and a 400Hz stereo signal to the R-ch.
2. Enter into service mode and select the "Test Menu" to be TDA6612.
3. Select the Stereo Xtalk Adjustment Menu, by using the Red (Next) and Green (Previous) buttons.
4. Monitor the Scart 1 L-channel output and adjust the data so that the R-channel sound is not detected in the L-channel.

### I.F. COIL ADJUSTMENT (T101) - B/G, D/K, I AND L STANDARD FOR CONTINENTAL MODELS.

1. Apply a 38.9MHz signal at 100dBuV to the input of SWF101.
2. Receive a channel so that the I.C. is selected for negative modulation.
3. Measure the voltage at the AFT test point and adjust (T101) to obtain 2.4V +/- 0.2V.

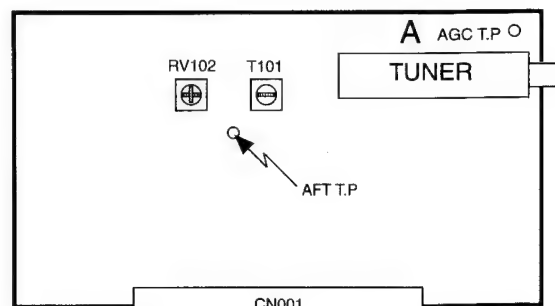
### L, BAND 1 ADJUSTMENT (RV102) - L, STANDARD FOR FRENCH MODELS.

1. Apply a 33.95MHz signal at 100dBuV to the input of SWF101.
2. Receive a channel so that the I.C. is selected for positive modulation and system L band 1.
3. Measure the voltage at the AFT test point and adjust (RV102) to obtain 2.4V +/- 0.2V.

**Note :** Only adjust RV102 after T101 has been correctly adjusted.

### AGC ADJUSTMENT

1. Receive an off- air signal.
2. Enter the service mode, ("Test" "Test") and 35.
3. Adjust the data so that there is no snow or cross - modulation visible on the screen.
4. Change the receiving off-air channel, and confirm the above status.



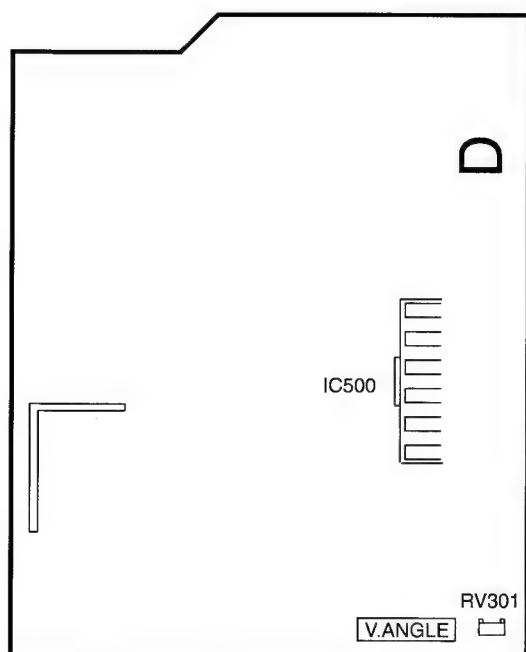
- A Board component side -

## DEFLECTION SYSTEM ADJUSTMENT

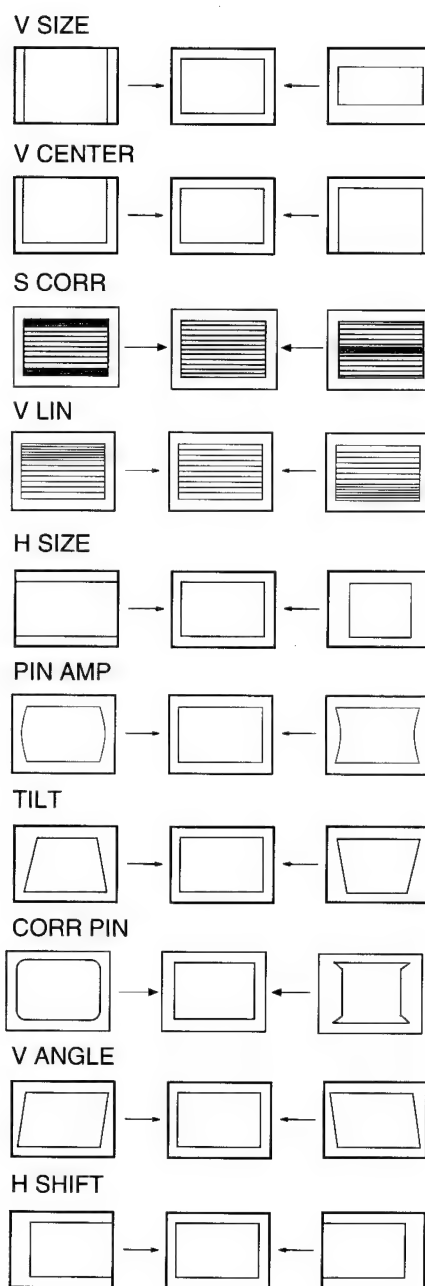
1. Enter into service mode.
2. Select and adjust each item in order to obtain the optimum image.

Item No	Adjustment item.	Data Amount
03	H SHIFT	ADJ.
04	H SIZE	ADJ.
05	PIN AMP	ADJ.
06	CORR PIN	ADJ.
07	TILT	ADJ.
08	V LINEAR	ADJ.
09	V SIZE	ADJ.
0A	S CORR	ADJ.
0B	V CENTER	ADJ.

Note : V ANGLE is adjusted by a Variable Resistor on the 'D' Board (RV301)

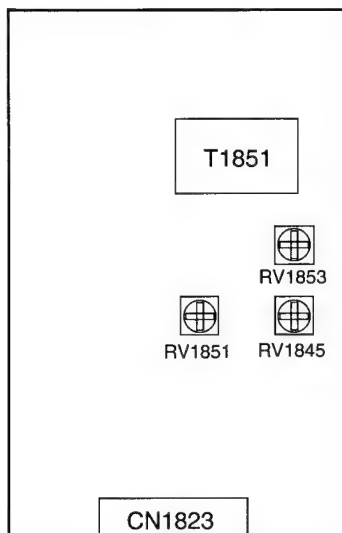


- D Board Component Side -

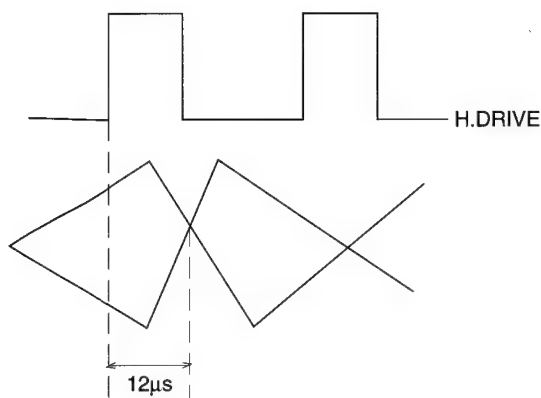
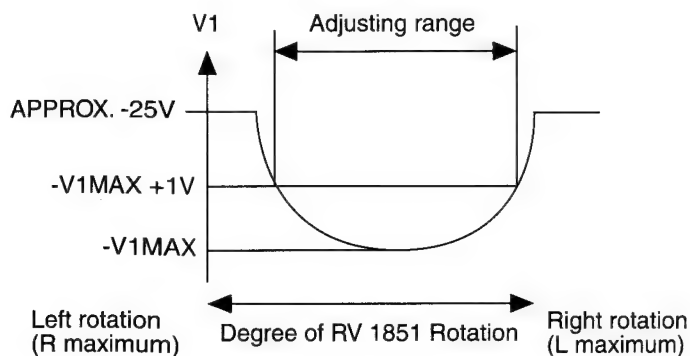


## PULSE WIDTH & V-PIN ADJUSTMENTS (RV 1851/1853)

### D2 BOARD



1. Connect an oscilloscope to pin 2 of T1851.
2. Preset RV-1853 to center of its range (mechanical center).
3. Adjust RV-1851 to obtain minimum amplitude.
4. Switch the oscilloscope input to D.C. and adjust RV-1853 to obtain  $-33.2 \pm 0.5V$ .
5. Adjust RV-1845 so that the difference between leading edge of H-drive pulse and V-pin out is  $12\mu s$ .



## 4-3. BE-3C SELF DIAGNOSTIC SOFTWARE

The identification of errors within the BE-3C chassis is triggered in 1 of 2 ways :- 1: Bus busy or 2: Device failiure to respond to IIC. In the event of one of these situations arrising the software will first try to release the bus if busy (Failiure to do so will report with continous flashing LED) and then communicate with each device in turn to establish if a device is faulty. If a device is found to be faulty the relevant device number will be displayed through the led (Series of flashes which must be counted) See Table 1., on fatal errors are reported with this method.

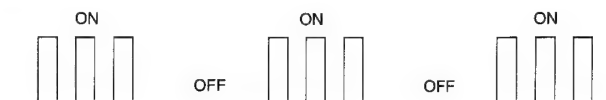
If a fatal error is found the set will simply stay in whichever state it was when the error ocured, but if a non fatal error occurs the set will try to continue operation.

Table 1

Device	LED Error Count	Fatal Error
NVM	2 .. 9	✓
Teletext	10	
Jungle	11	✓
Video_sw	12	
Tuner	13	✓
Nicam	14	
Audio_cont	15	✓

Flash Timing Example : e.g. error number 3.

Stby LED

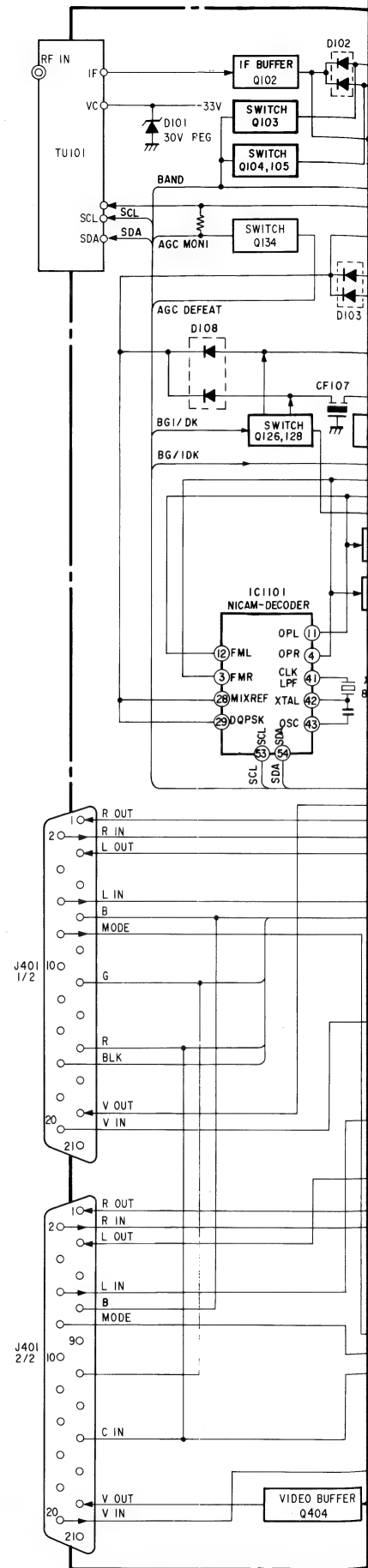
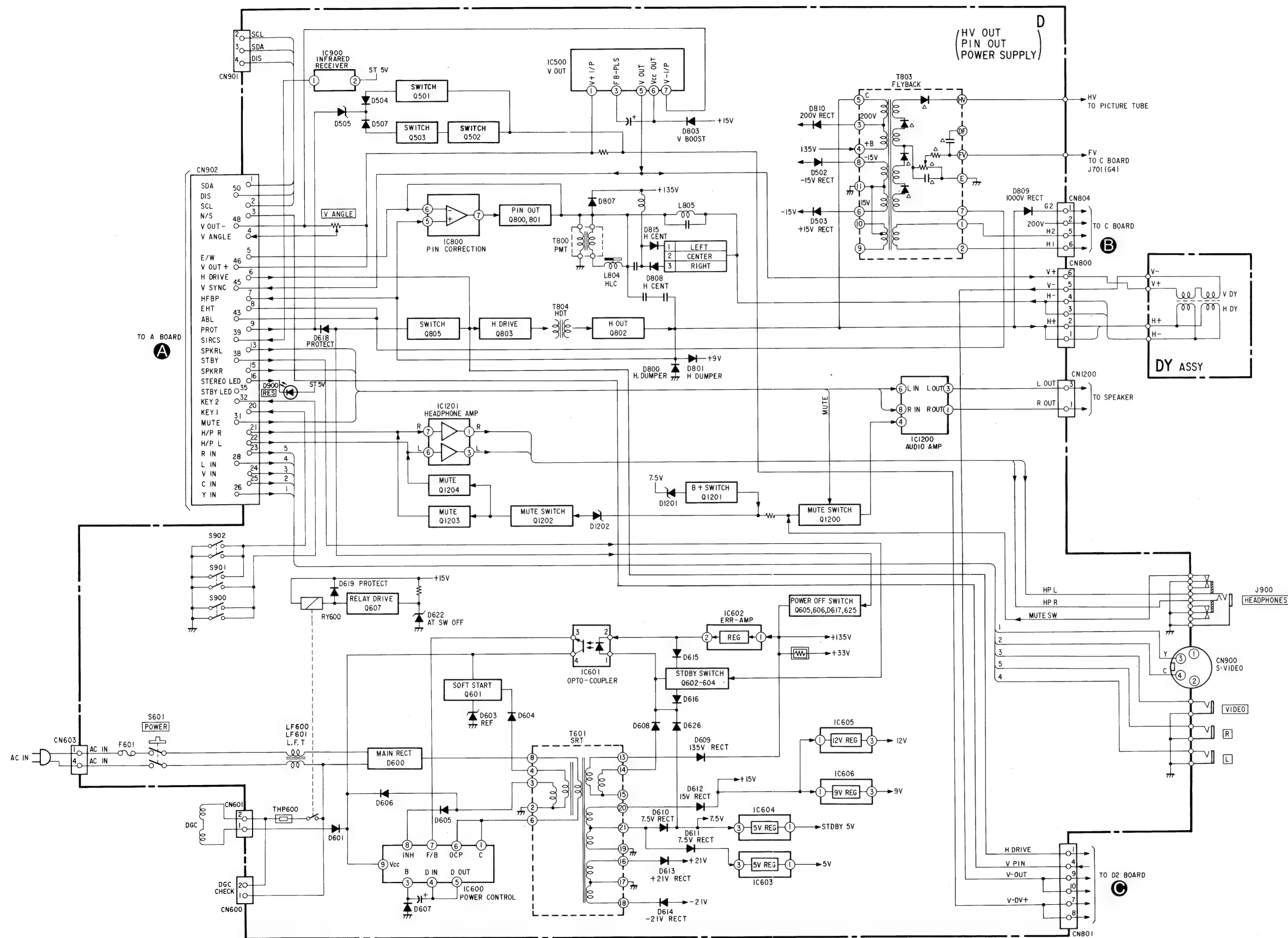


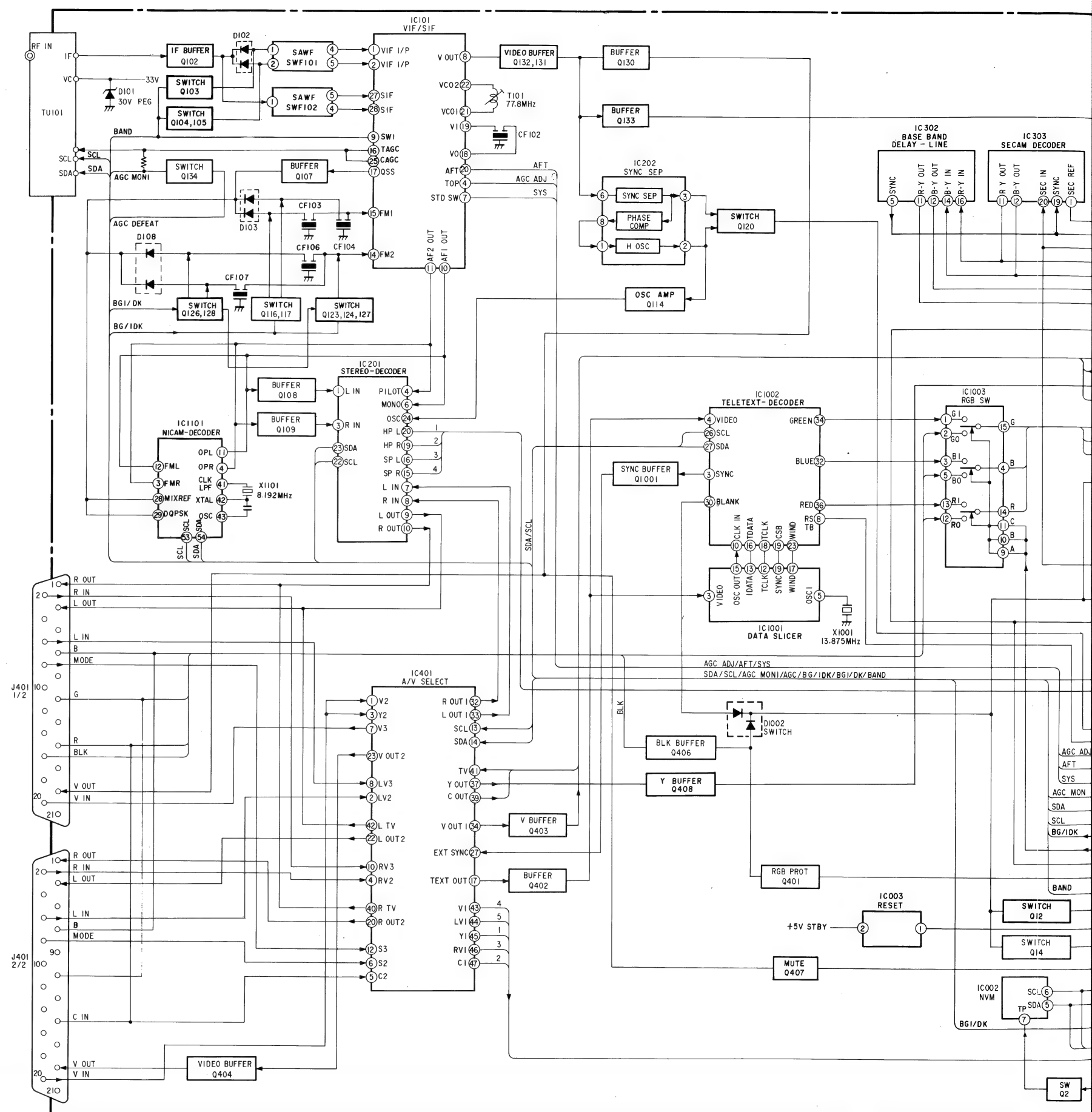
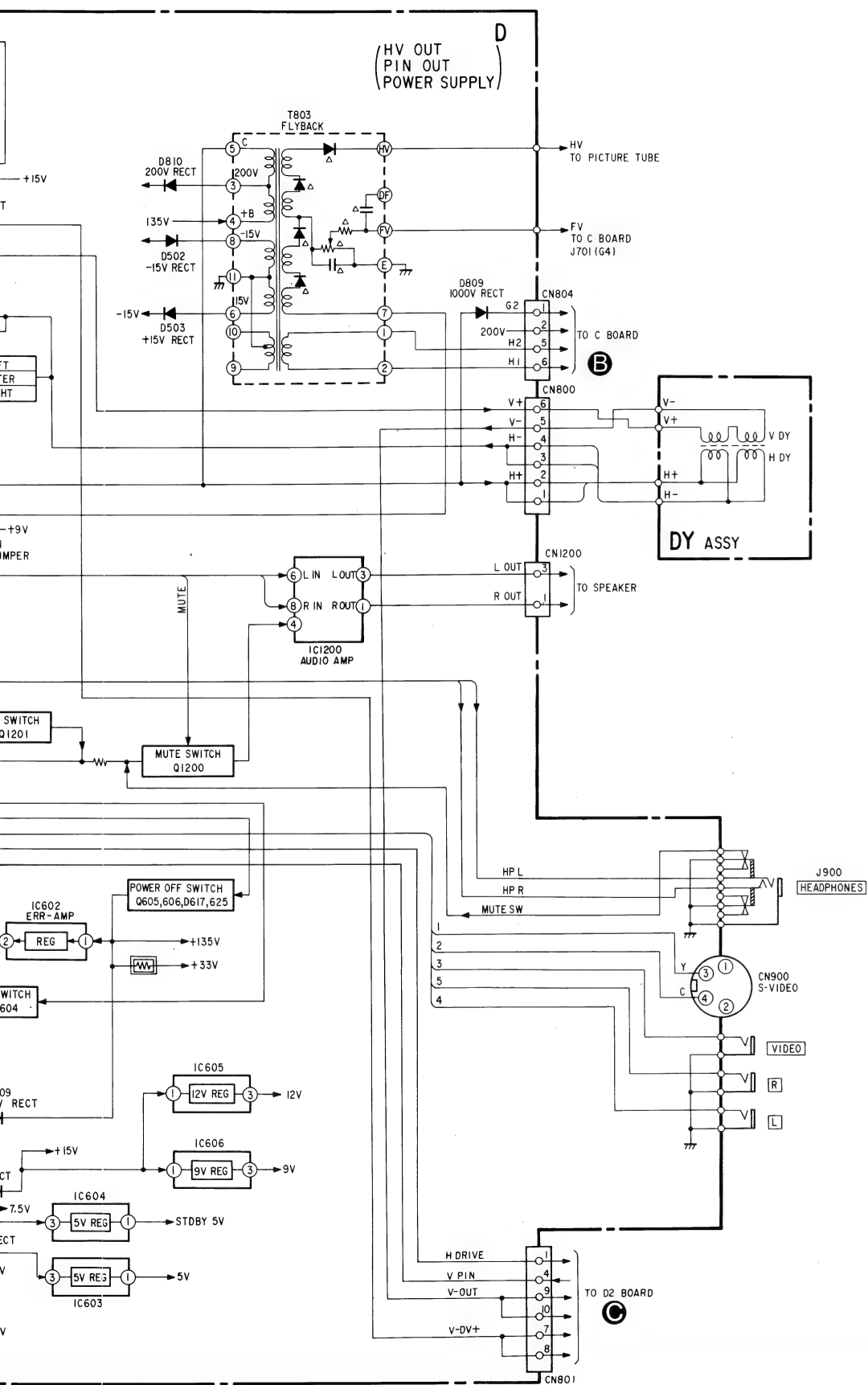
# MEMO

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.

# SECTION 5 DIAGRAMS

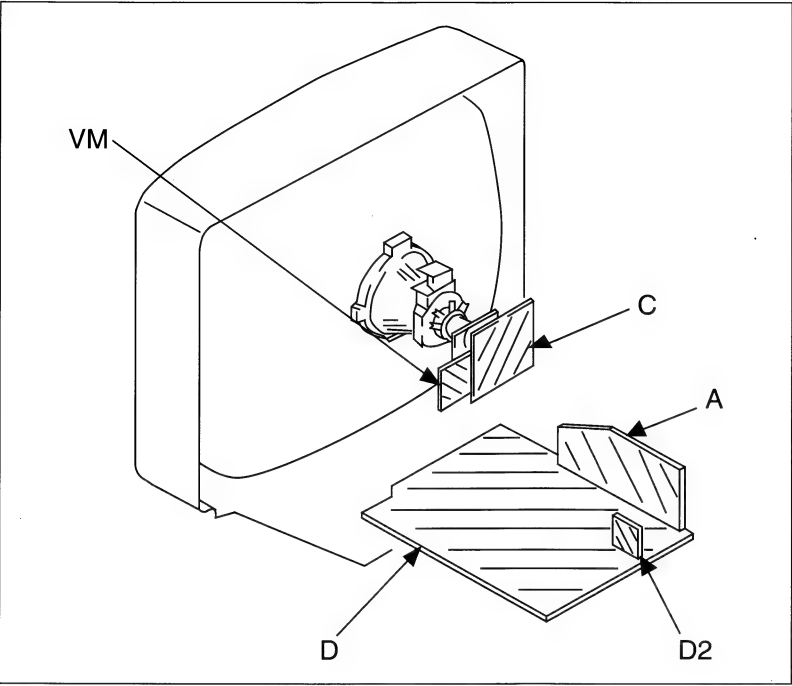
## 5-1. BLOCK DIAGRAM







5-2. CIRCUIT BOARDS LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

- Note :**
- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\text{F}$  50WV or less are not indicated except for electrolytic and tantalums.
  - All resistors are in ohms.  
k = 1000 , M = 1000K
  - Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch : 5 mm  
Rating electrical power  $\frac{1}{4}$  W

- : nonflammable resistor.
- : internal component.
- : panel designation, or adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth - ground.
- : earth - chassis.
- : no mounted.

Reference information		
RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RS	NONFLAMMABLE METAL OXIDE
	: RB	NONFLAMMABLE CEMENT
	: RW	NONFLAMMABLE WIREWOUND
	:	ADJUSTABLE RESISTOR
COIL	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

- Readings are taken with a colour-bar signal input.
- Readings are taken with 10M digital multimeter.
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- All voltages are in V.
- Circled numbers are waveform references.
- : B+ bus.
- : signal path. (RF)

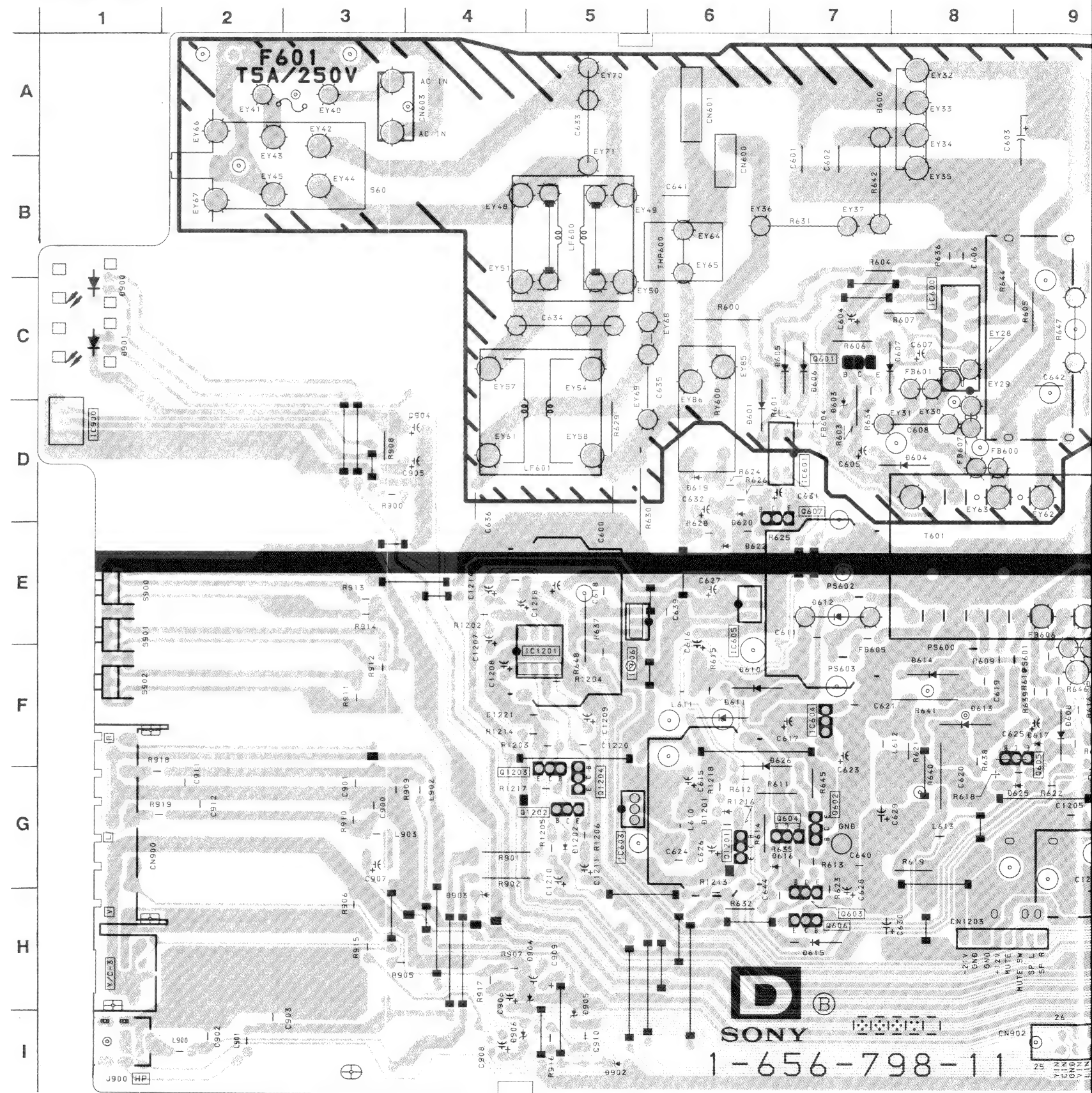
**Note :** The components identified by shading and marked are critical for safety. Replace only with the part number specified.

**Note :** Les composants identifiés par une trame et une marque sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

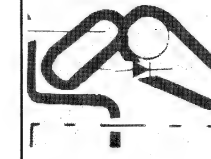


**D** [ HV OUT  
PIN OUT  
POWER SUPPLY ]

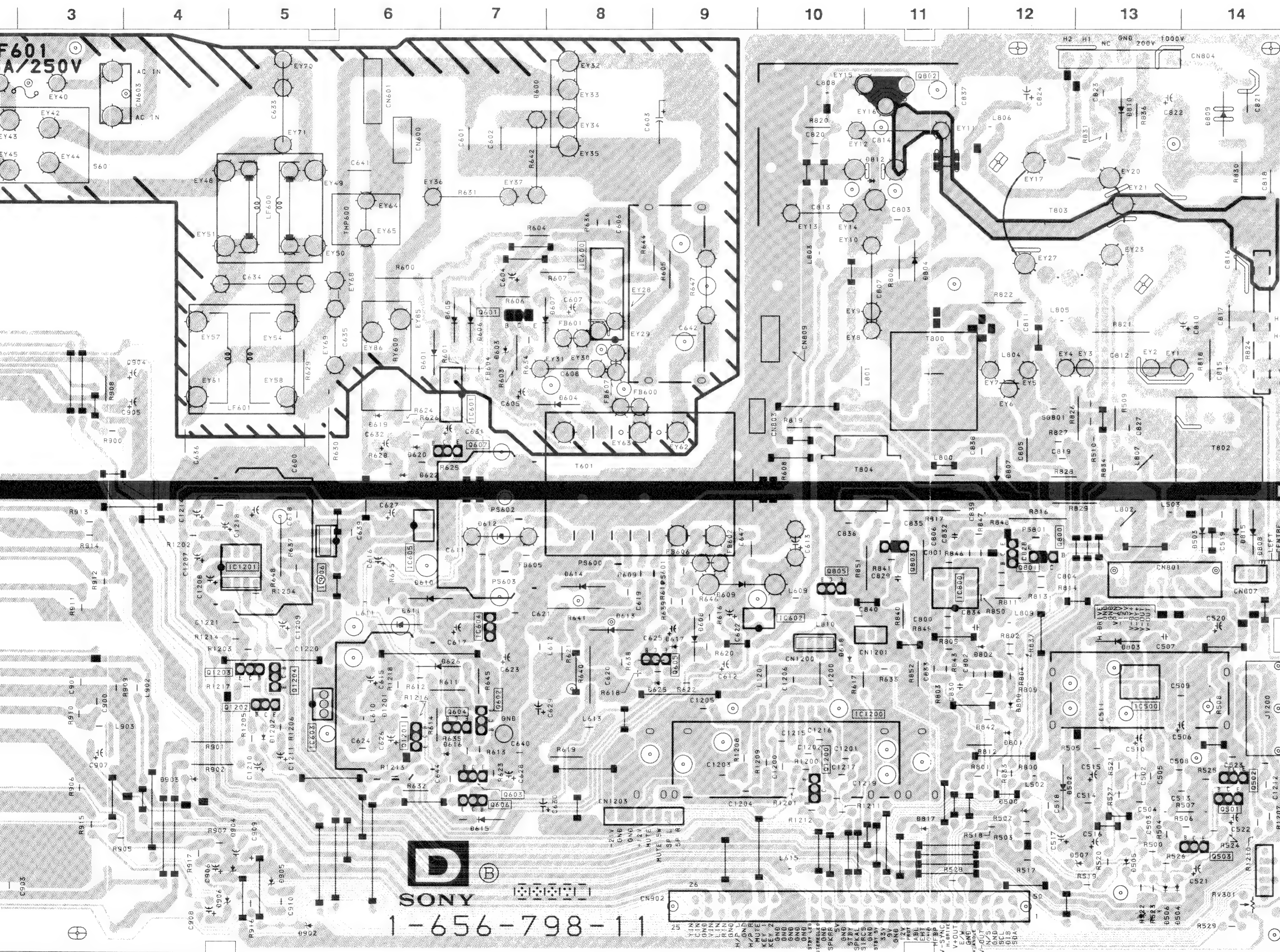
— D BOARD —



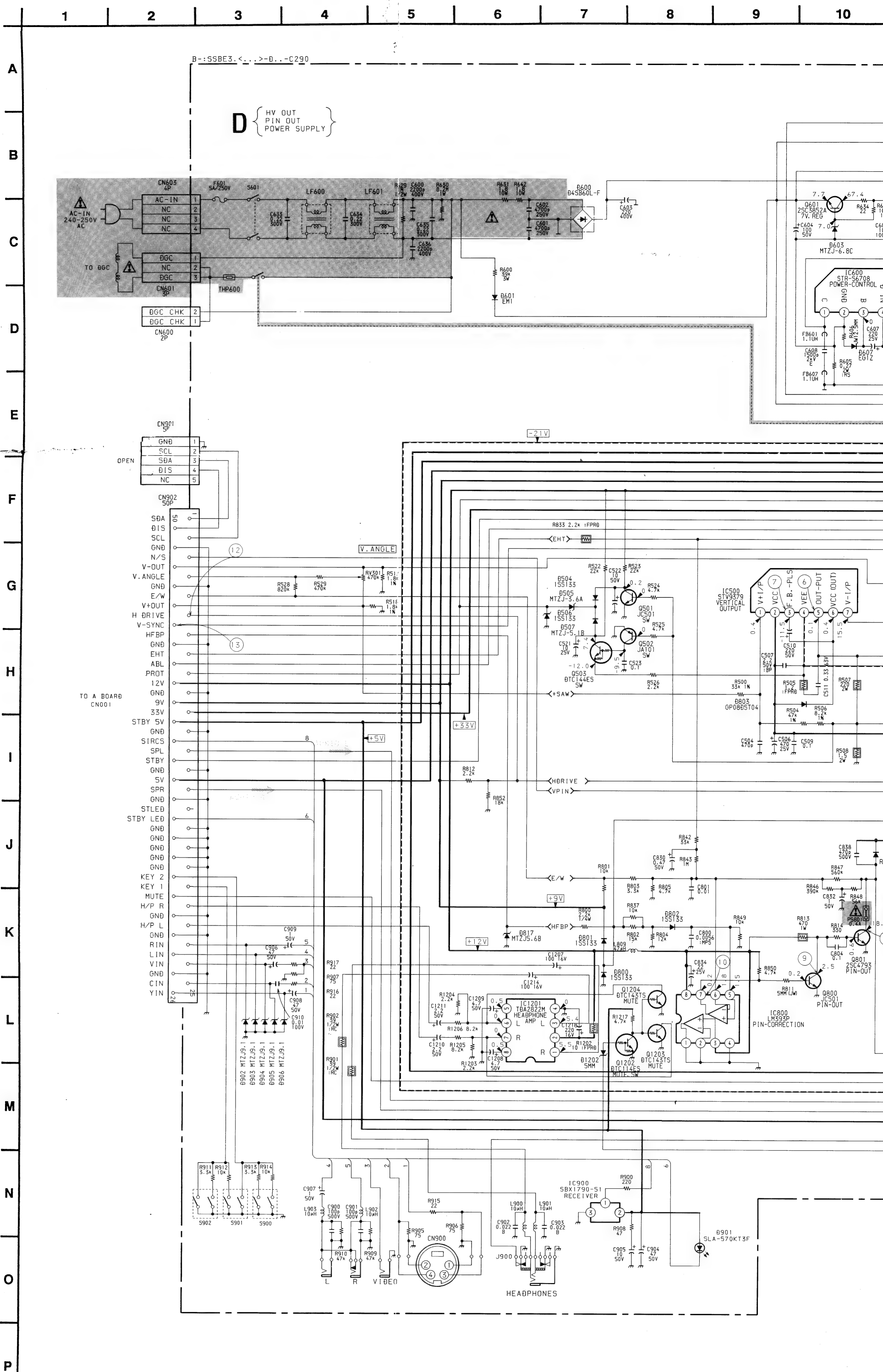


**NOTE:**

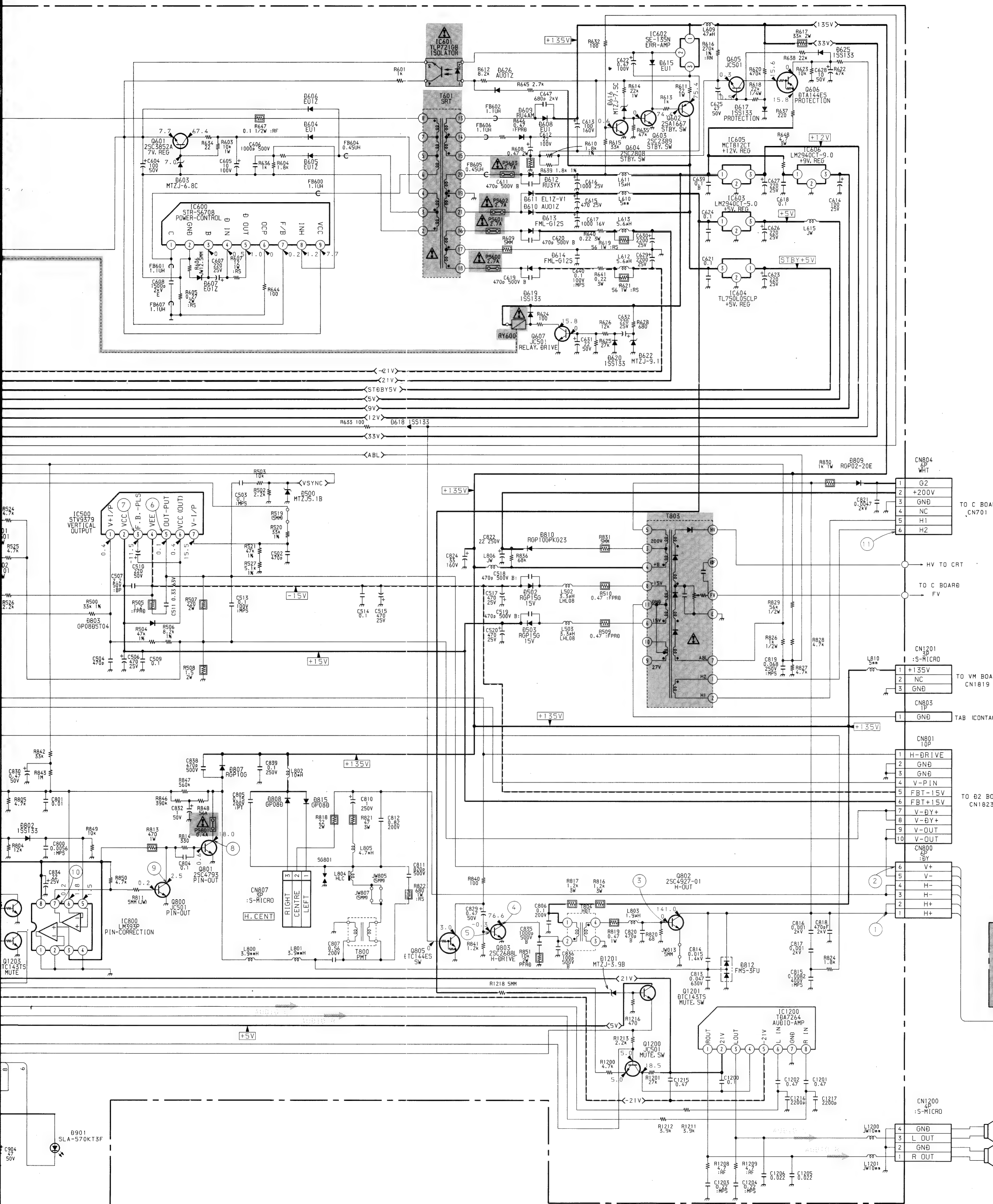
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

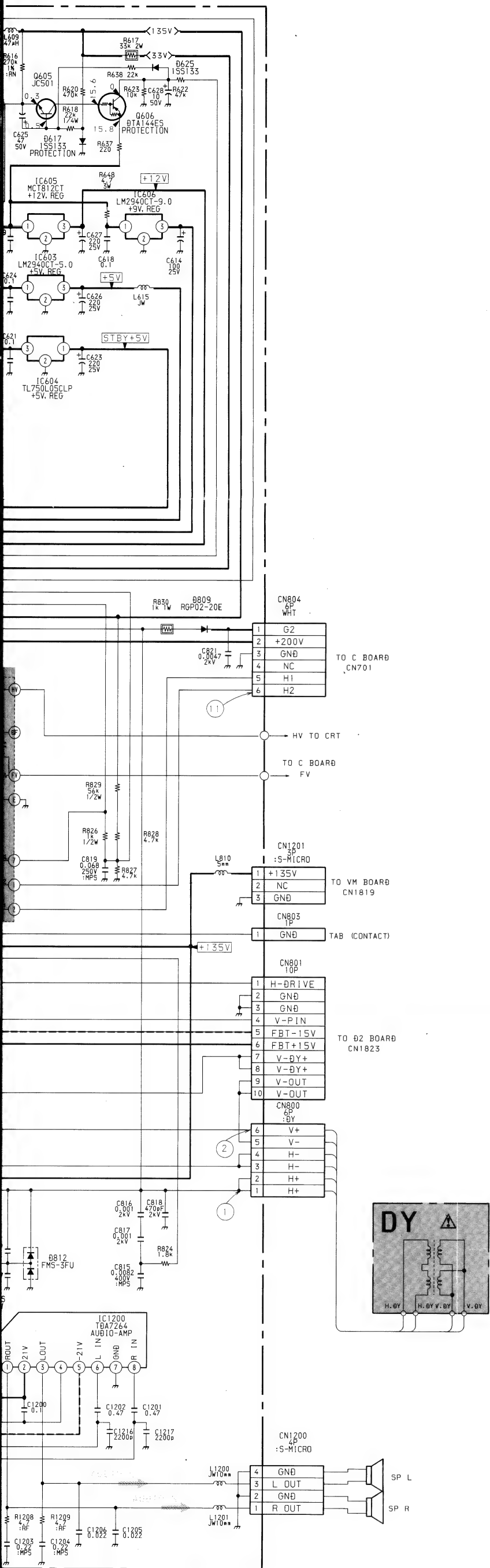
**— D BOARD —**

IC		D600	A-8
IC500	G-13	D601	D-6
IC600	C-8	D603	D-7
IC601	D-7	D604	D-8
IC602	F-10	D605	C-7
IC603	G-5	D606	C-7
IC604	F-7	D607	C-8
IC605	E-6	D608	F-9
IC606	F-5	D609	F-9
IC800	F-12	D610	F-6
IC1200	G-11	D611	F-6
IC1201	F-5	D612	E-7
		D613	F-8
		D614	F-8
		D615	H-7
		D616	G-7
		D617	F-9
		D618	F-10
		D619	D-6
		D620	E-6
		D622	E-6
		D625	G-9
		D626	G-7
		D800	G-12
		D801	G-12
		D802	F-12
		D803	F-13
		D807	E-12
		D808	E-14
		D809	A-14
		D810	A-13
		D812	B-11
		D815	E-14
		D817	H-11
		D902	I-5
		D903	H-4
		D904	H-5
		D905	I-5
		D906	I-5
		D1201	G-6
TRANSISTOR		DIODE	
Q501	H-14	D500	H-12
Q502	H-14	D502	H-13
Q503	H-14	D503	E-14
Q601	C-7	D504	I-14
Q602	G-7	D505	H-13
Q603	H-7	D506	I-14
Q604	G-7	D507	H-13
Q605	G-9		
Q606	H-7		
Q607	D-7		
Q800	E-12		
Q801	F-12		
Q802	A-11		
Q803	E-11		
Q805	F-10		
Q1200	H-10		
Q1201	G-6		
Q1202	G-5		
Q1203	G-5		
Q1204	G-5		
		VARIABLE RESISTOR	
		RV301	I-14

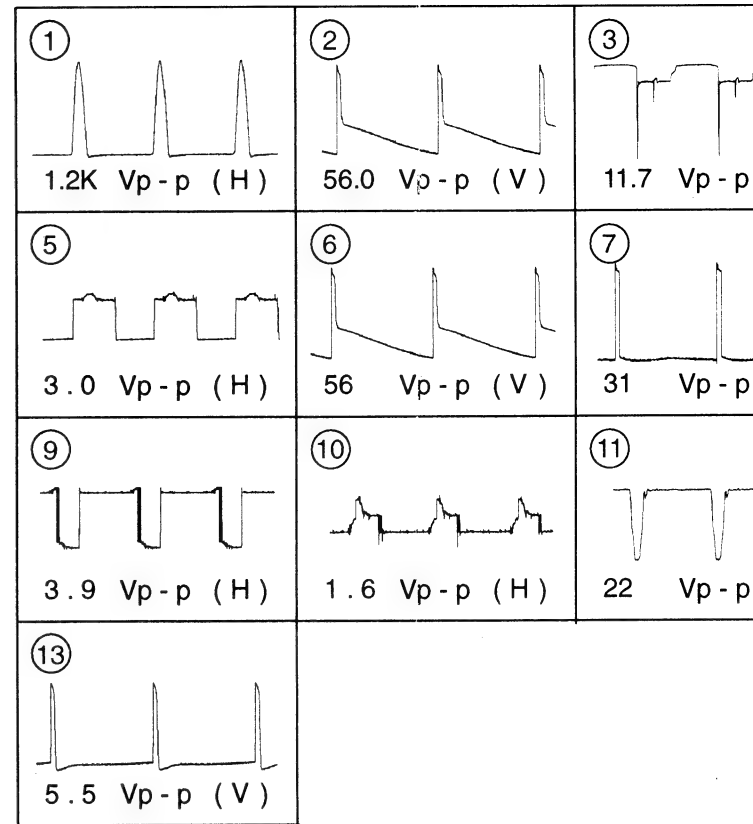




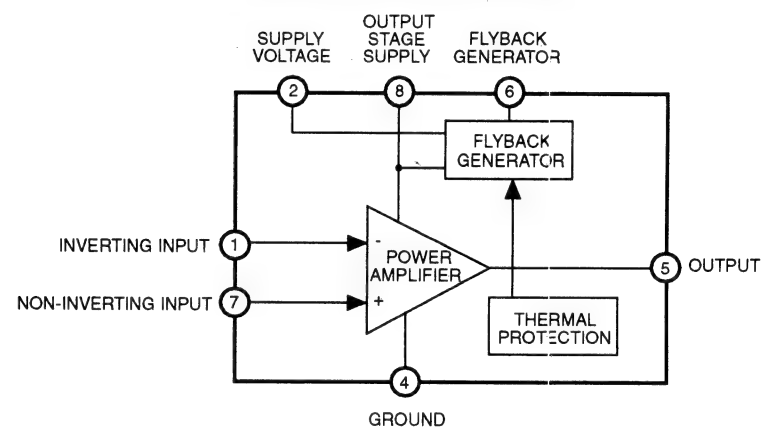




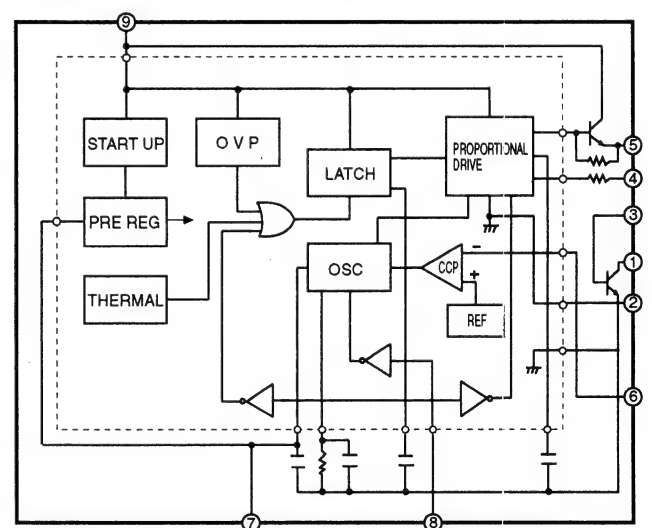
# WAVEFORMS D BOARD



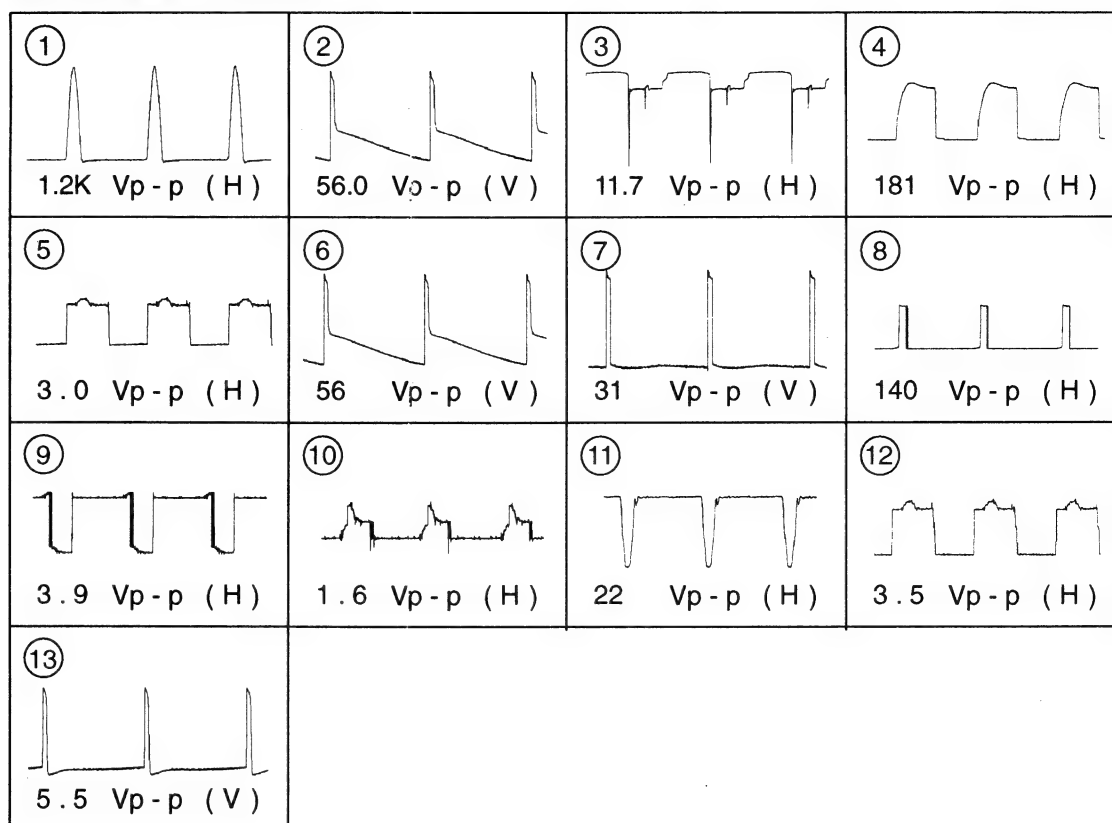
## D BOARD IC500 STV9379



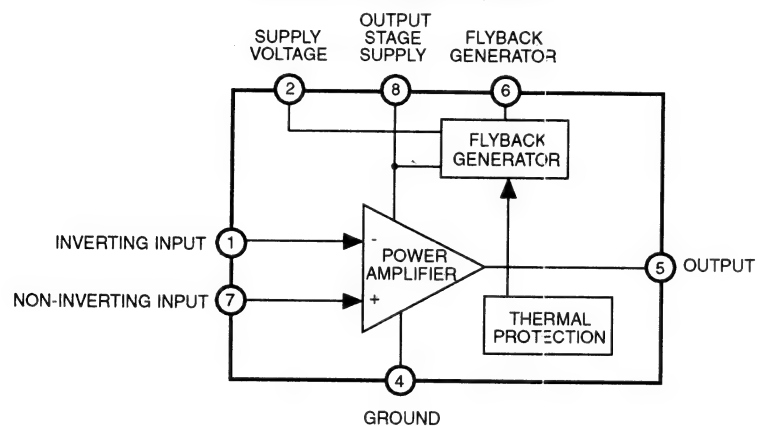
## D BOARD IC600 STR-S6708



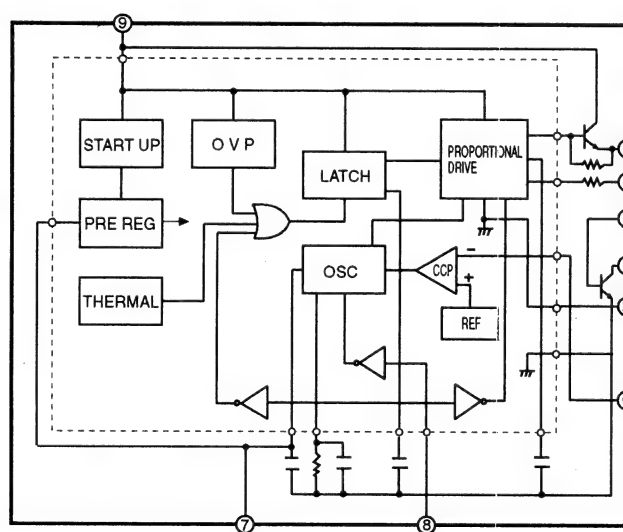
## WAVEFORMS D BOARD



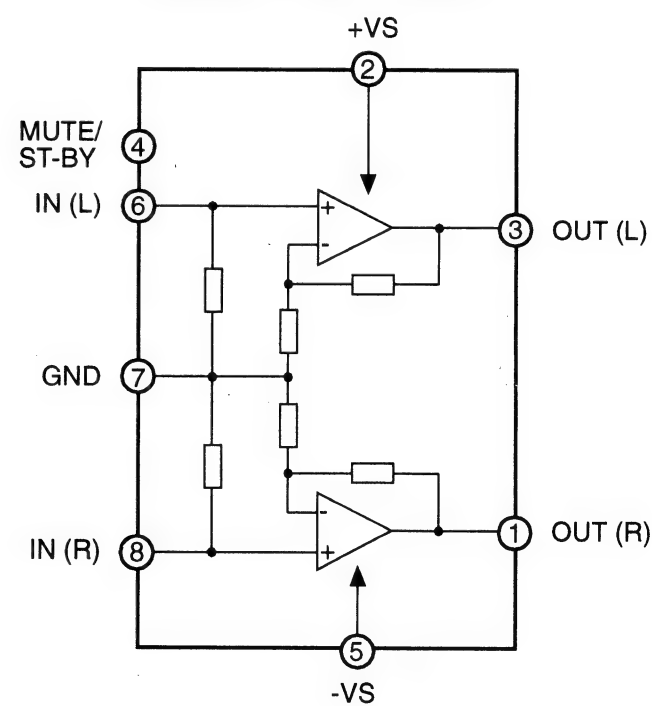
## D BOARD IC500 STV9379

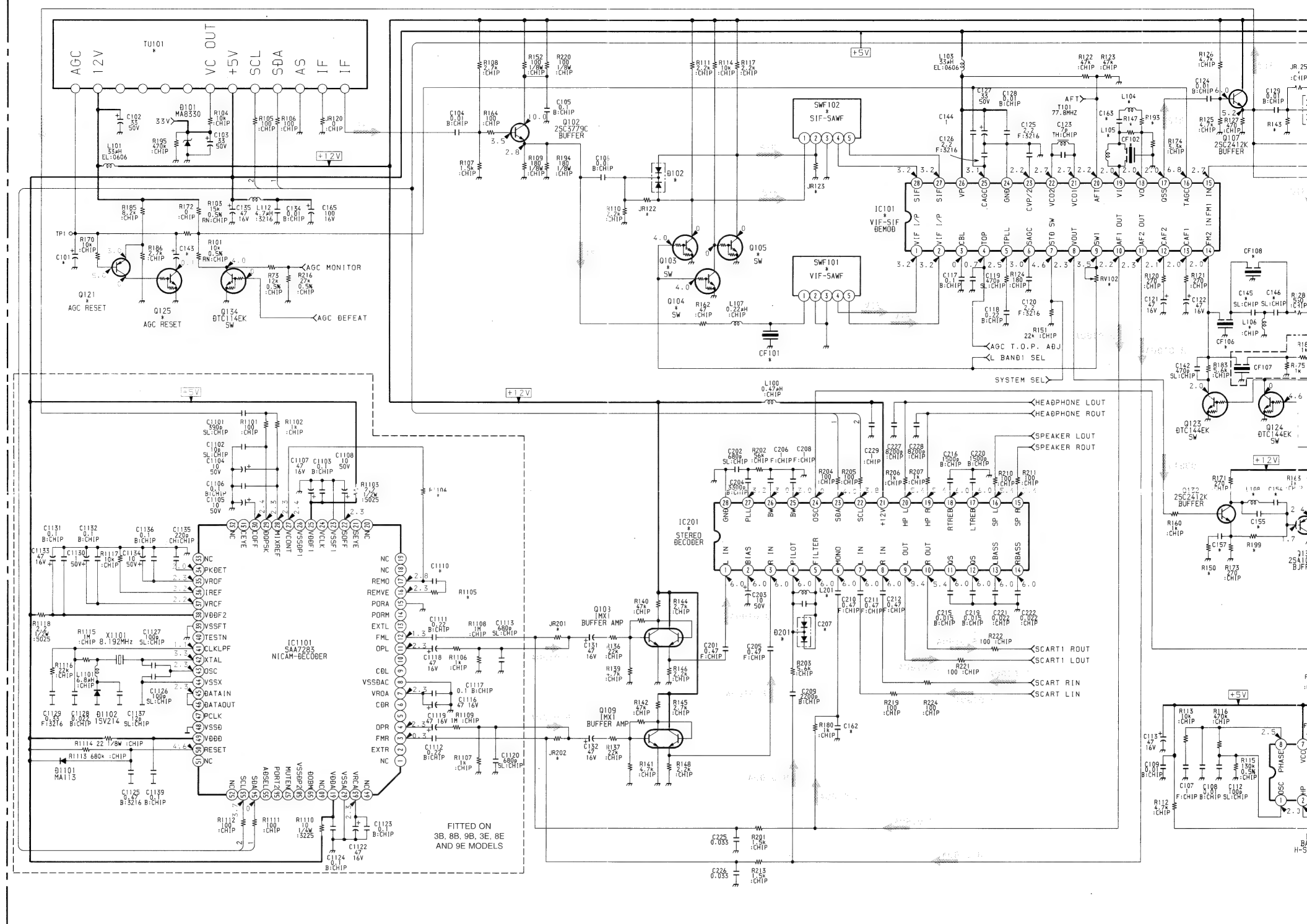


## D BOARD IC600 STR-S6708



## D BOARD IC1200 TDA7264





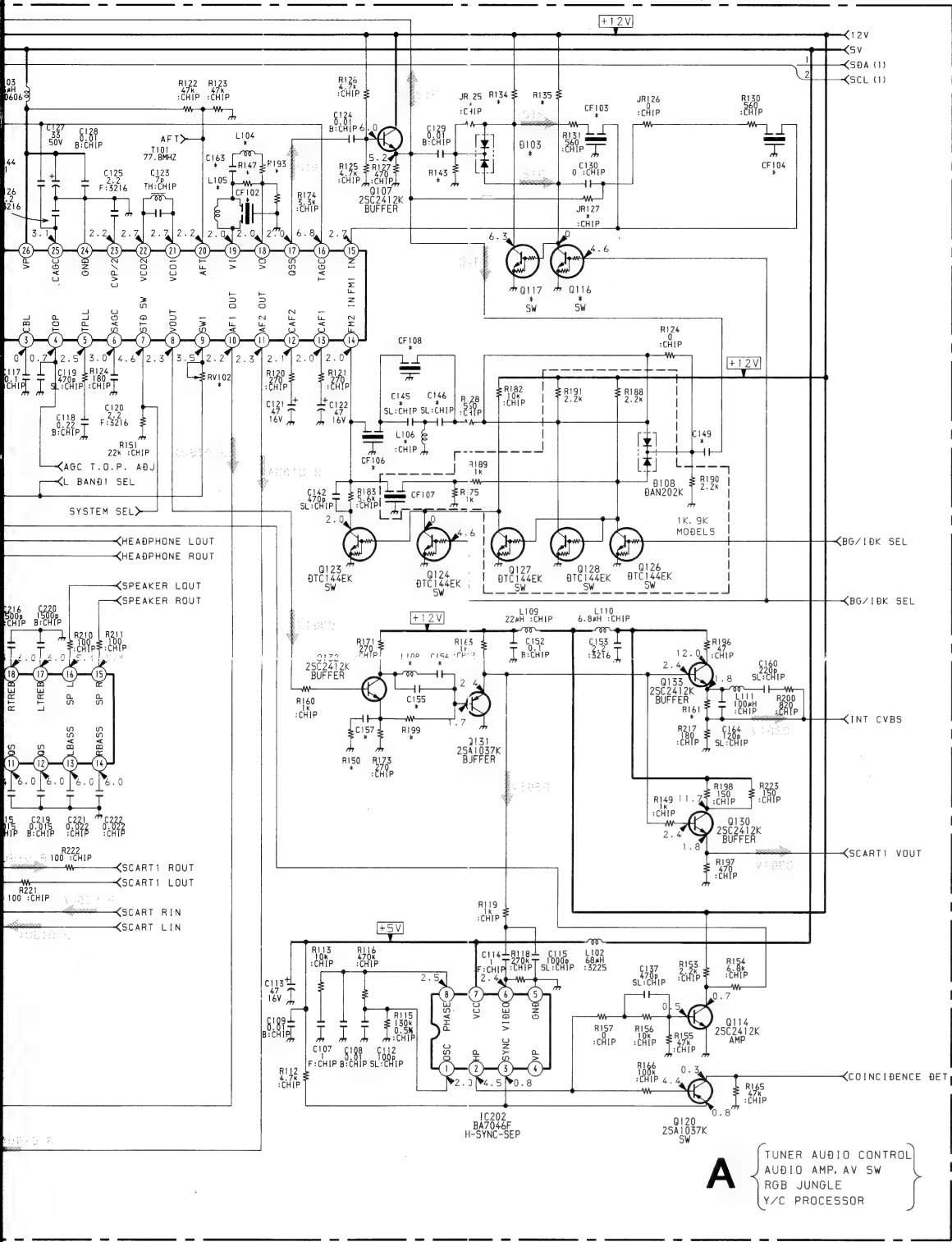
<p>①</p> <p>3.5 Vp-p (H)</p>	<p>②</p> <p>3.0 Vp-p (H)</p>	<p>③ PAL.SECAM</p> <p>2.5 Vp-p (H)</p>	<p>③ NTSC</p> <p>2.3 Vp-p (H)</p>	<p>④ PAL</p> <p>0.1 Vp-p (H)</p>
<p>④ SECAM</p> <p>1.1 Vp-p (H)</p>	<p>④ NTSC</p> <p>0.9 Vp-p (H)</p>	<p>⑤</p> <p>1.0 Vp-p (H)</p>	<p>⑥</p> <p>1.4 Vp-p (H)</p>	<p>⑦ PAL.NTSC</p> <p>1.4 Vp-p (H)</p>
<p>⑦ SECAM</p> <p>1.1 Vp-p (H)</p>	<p>⑧ PAL</p> <p>0.8 Vp-p (H)</p>	<p>⑧ SECAM</p> <p>1.5 Vp-p (H)</p>	<p>⑧ NTSC</p> <p>0.9 Vp-p (H)</p>	<p>⑨ PAL.SECAM</p> <p>0.5 Vp-p (H)</p>
<p>⑨ NTSC</p> <p>0.4 Vp-p (H)</p>	<p>⑩</p> <p>1.0 Vp-p (H)</p>	<p>Voltages indicated with the mark * on the schematic diagram are shown in the table below.</p>		

**A BOARD**

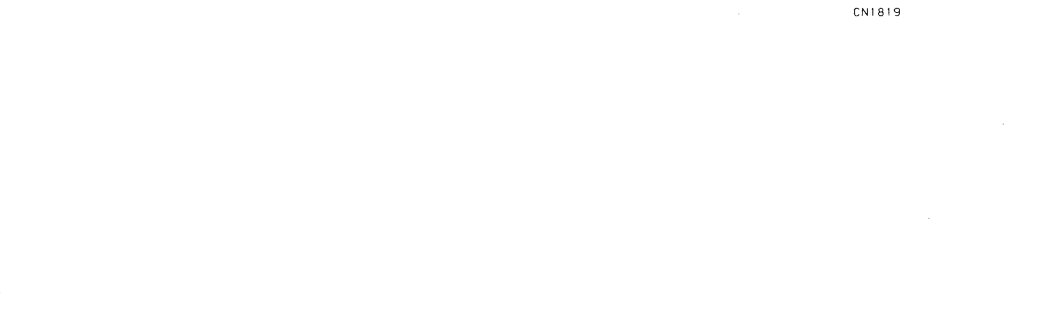
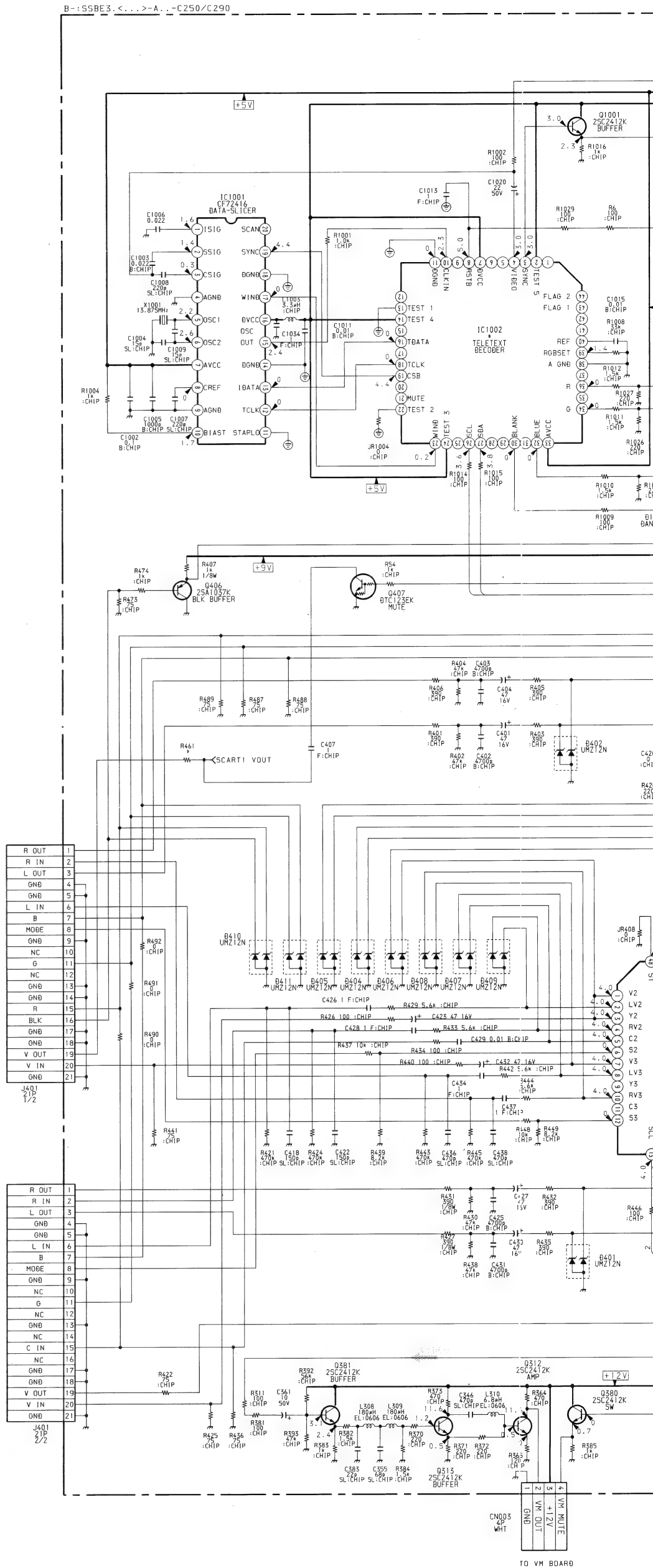
IC	Pin	PAL	SECAM
IC301	17	4.0	4.0
	35	3.6	2.5

The block diagram illustrates the video system architecture. The signal path starts with an input (represented by a circle with '8') that splits into two paths. One path goes through a series of control lines (7, 2, 1, 12, 11) to the VIDEO AMPL. block. The other path goes through an I2C-BUS TRANSCEIVER and CONTROL DAC's (17 x 6-BIT's, 2 x 4-BIT's) to the VIDEO MUTE block. The VIDEO AMPL. block outputs to the VIDEO MUTE block, which is controlled by a MUTE signal (POL). The VIDEO MUTE block outputs to the CVBS-SWITCH block, which is controlled by a SW signal. The CVBS-SWITCH block outputs to the SVHS SWITCH block, which is controlled by a SW signal. The SVHS SWITCH block outputs to the output (represented by a circle with '14'). The SVHS SWITCH block also has a TRAP block and a BAIDR block connected to it, which are controlled by a SW signal. The output of the SVHS SWITCH block is also connected to a series of control lines (24, 29, 20, 21, 27, 55, 14).

IC	Pin	PAL	SECAM	NTSC 3.58	NTSC 4.43
IC301	17	4.0	4.0	4.0	0
	35	3.6	2.5	3.5	3.5
	44	1.5	3.1	1.5	1.5
	45	1.5	3.0	1.5	1.5
	48	1.7	4.4	1.6	1.7
	49	1.4	1.4	2.0	1.4
	50	2.0	2.0	1.4	2.0
	63	3.4	2.5	2.2	2.5
IC303	1	1.7	4.4	1.6	1.7
	11	1.5	3.0	1.5	1.5
	12	1.5	3.1	1.5	1.5

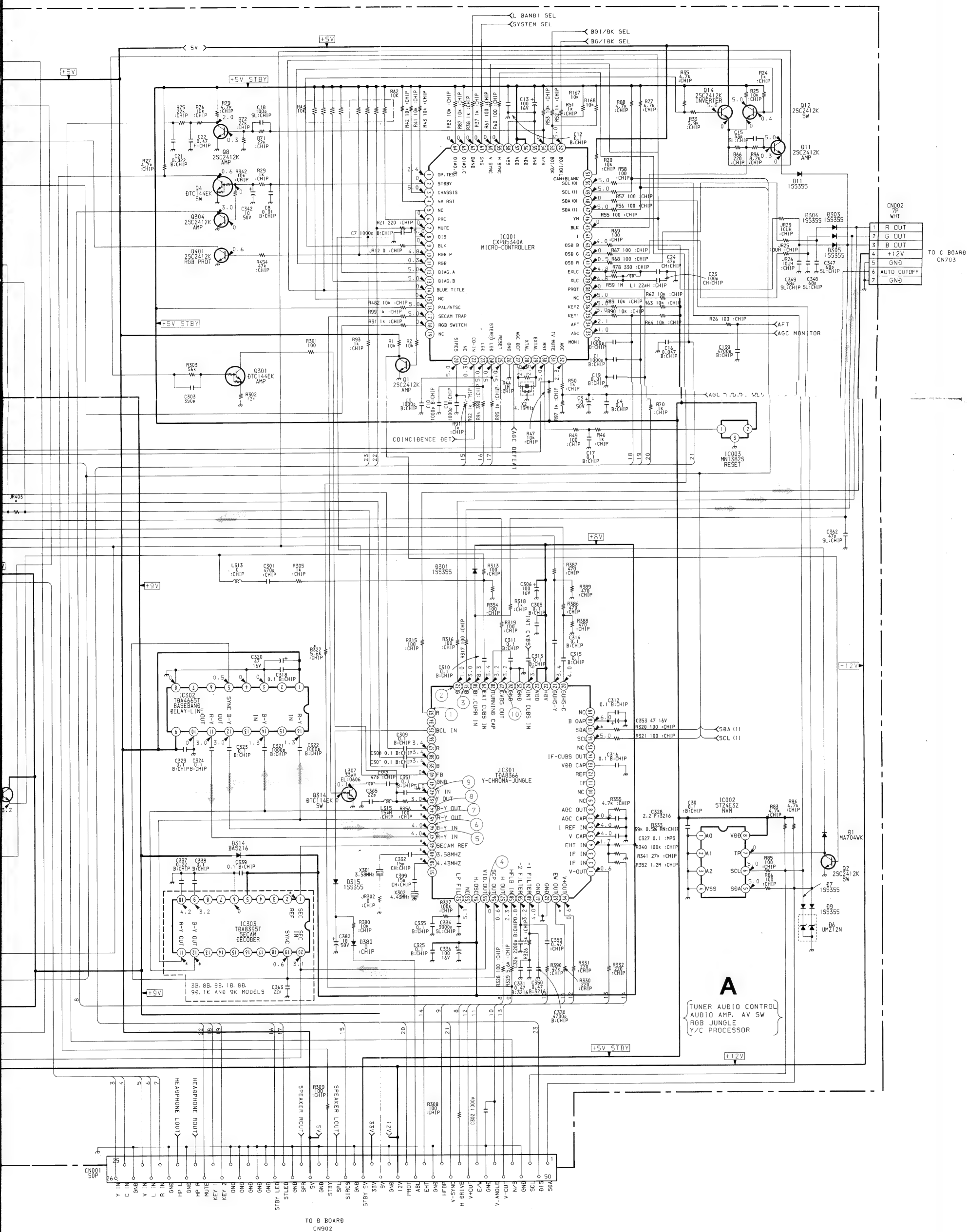


NTSC
4.43
0
3.5
1.5
1.5
1.7
1.4
2.0
2.5
1.7
1.5
1.5







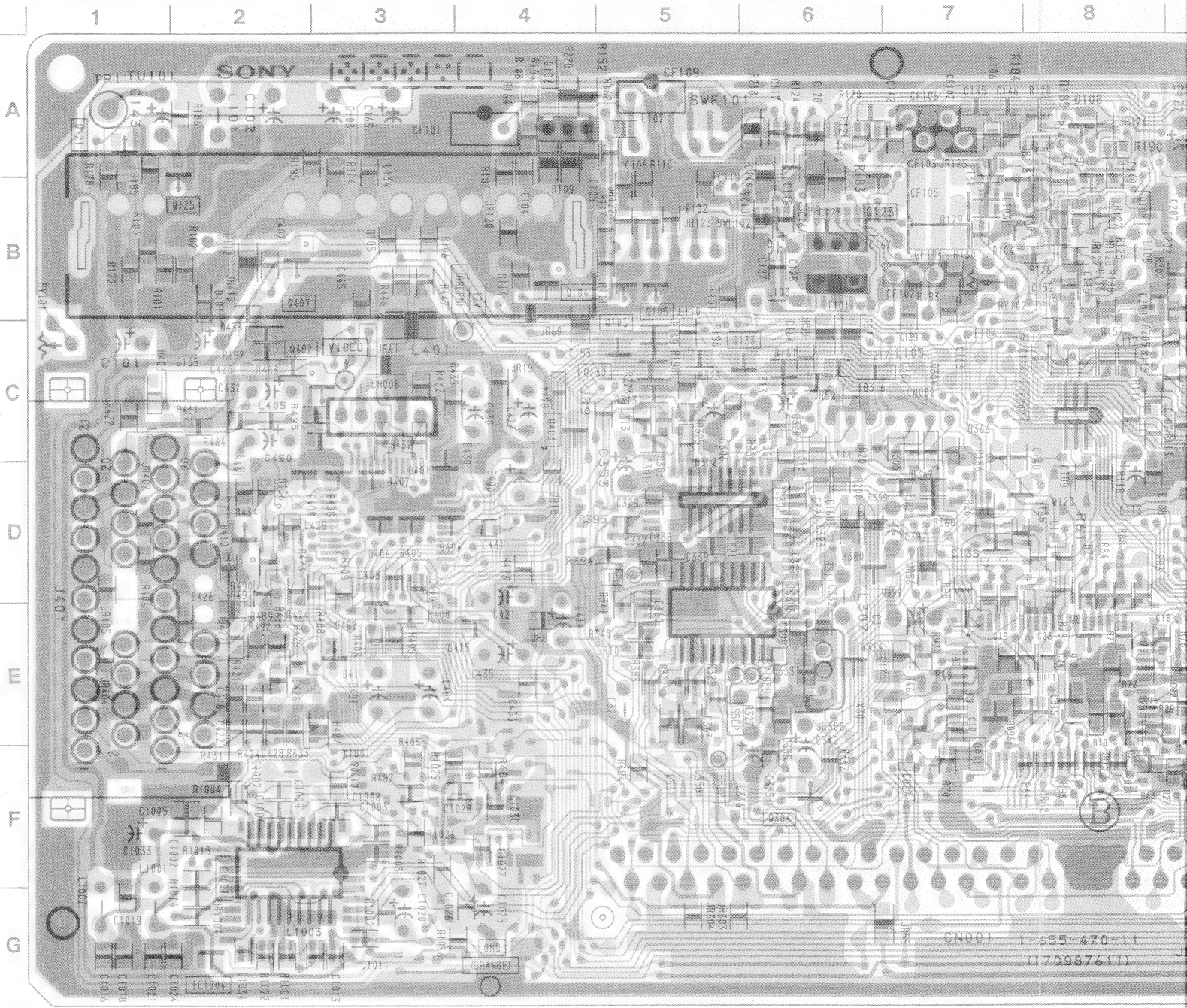


A BOARD \* MARK

Model Ref	C2901A	C2903B C2908B C2909B	C2901D C2908D C2909D	C2903E C2908E C2909E	C2901K C2909K
C101	22 / 50V	4.7 / 50V	22 / 50V	22 / 50V	22 / 50V
C143	—	100 / 16V	—	—	—
C145	10p	10p	—	10p	10p
C146	10p	10p	—	10p	10p
C149	0	0	0	0	0.01
C154	68p	33p	68p	68p	68p
C155	10p	—	10p	10p	10p
C157	33p	68p	33p	33p	33p
C162	—	0.012	—	—	—
C163	—	1000p	—	—	—
C207	0.018 / 100V	0.018 / 100V	0.018 / 100V	0.018 / 100V	0.018 / 100V
C1110	—	0.047	—	0.047	—
CF101	EFCV4045A4	EFCV4045A4	EFCV4045A4	EFCV4045A4	EFCV4045A4
CF102	5.5MHz	6.5MHz	5.5MHz	5.5MHz	5.5MHz
CF103	5.5MHz	5.5MHz	5.5MHz	5.5MHz	5.5MHz
CF104	—	6.0MHz	6.5MHz	—	6.5MHz
CF106	5.7MHz	5.7MHz	5.7MHz	5.7MHz	5.7MHz
CF108	—	—	5.7MHz	—	—
D102	—	DAN202K	—	—	—
D103	—	DAN202K	DAN202K	—	DAN202K
D201	DA204K	DA204K	DA204K	DA204K	DA204K
IC101	TDA9813T	TDA9814T	TDA9813T	TDA9813T	TDA9813T
IC201	TDA6612	TDA6612	TDA6612	TDA6612	TDA6612
IC1002	CF70200FN	—	CF70203FN	CF70200FN	CF70200FN
JR122	0	—	0	0	0
JR123	0	—	0	0	0
JR125	0	—	—	0	—
JR127	—	—	—	—	—
JR201	0	—	0	—	0
JR202	0	—	0	—	0
JR401	—	0	—	—	—
JR402	—	0	—	—	—
JR403	—	0	—	—	—
L104	—	100UH	—	—	—
L105	12UH	5.6UH	12UH	12UH	12UH
L108	33UH	27UH	33UH	33UH	33UH
L201	4.7mH	4.7mH	4.7mH	4.7mH	4.7mH
Q103	—	DTC114EK	—	—	—
Q104	—	DTC114EK	—	—	—
Q105	—	DTC114EK	—	—	—
Q116	—	DTC144EK	DTC144EK	—	DTC144EK
Q117	—	DTC144EK	DTC144EK	—	DTC144EK
Q121	—	2SA1162-G	—	—	—
Q125	—	DTC114EK	—	—	—
R134	—	2.2K	2.2K	—	2.2K
R135	—	2.2K	2.2K	—	2.2K
R143	—	2.2K	2.2K	—	2.2K
R147	220	180	220	220	220
R150	0	0	0	0	0
R161	180	180	180	180	180
R193	—	1K	—	—	—
R199	1K	1.2K	1K	1K	1K
R461	75	75	75	75	75
R1104	—	33K	—	33K	—
R1105	—	1.8K	—	1.8K	—
RV102	—	22K	—	—	—
SWF101	K3953M	K3953M	K3953M	K3953M	K3953M
SWF102	K9350M	K9453M	K9350M	K9350M	K9350M
TU101	UV916H	UV916H	UV916H	UV916H	UV916H

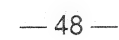
**A** TUNER AUDIO CONTROL  
AUDIO AMP, AV SW  
RGB JUNGLE, Y/C PROCESSOR

— A BOARD —

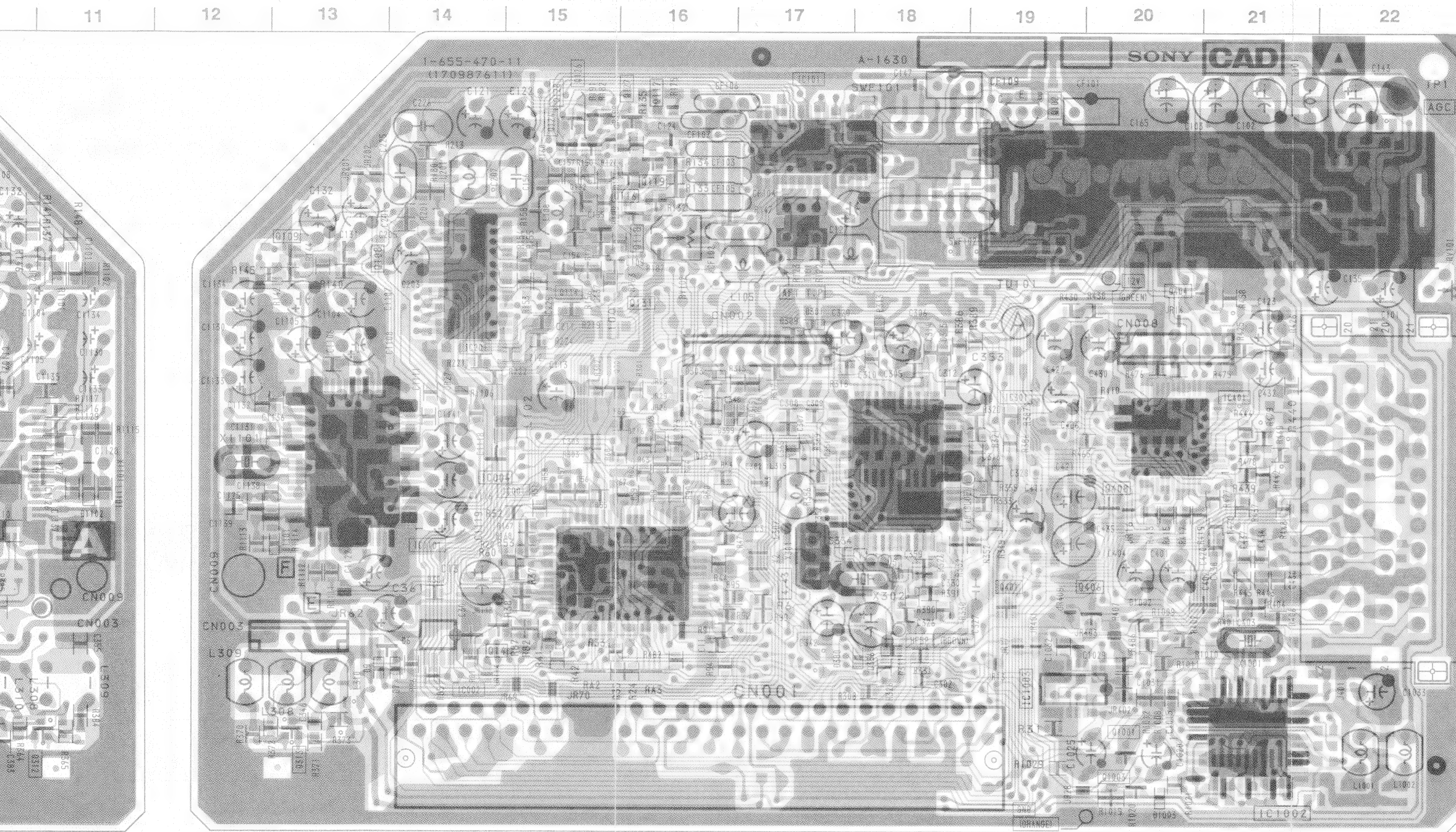




— A BOARD —






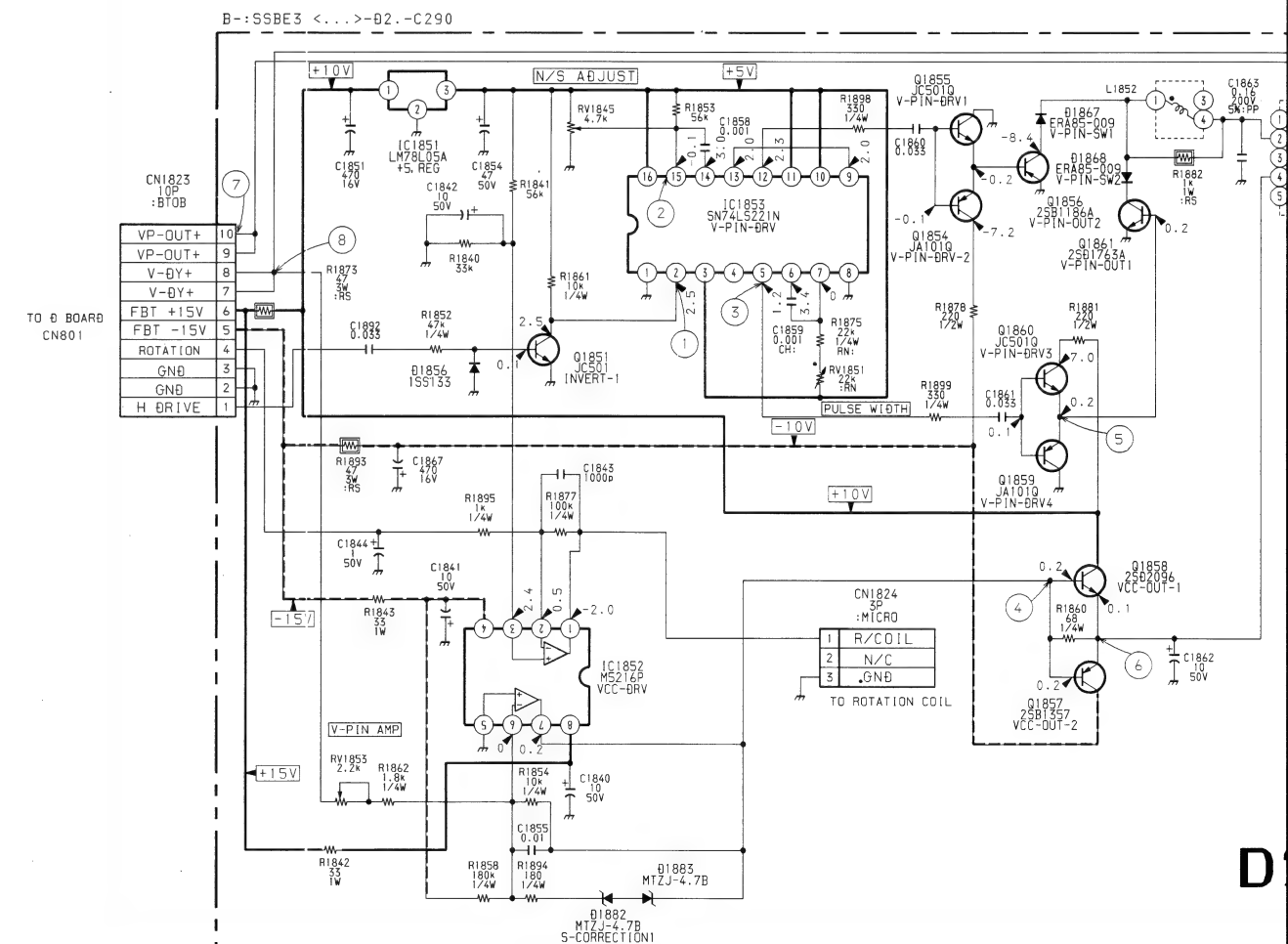
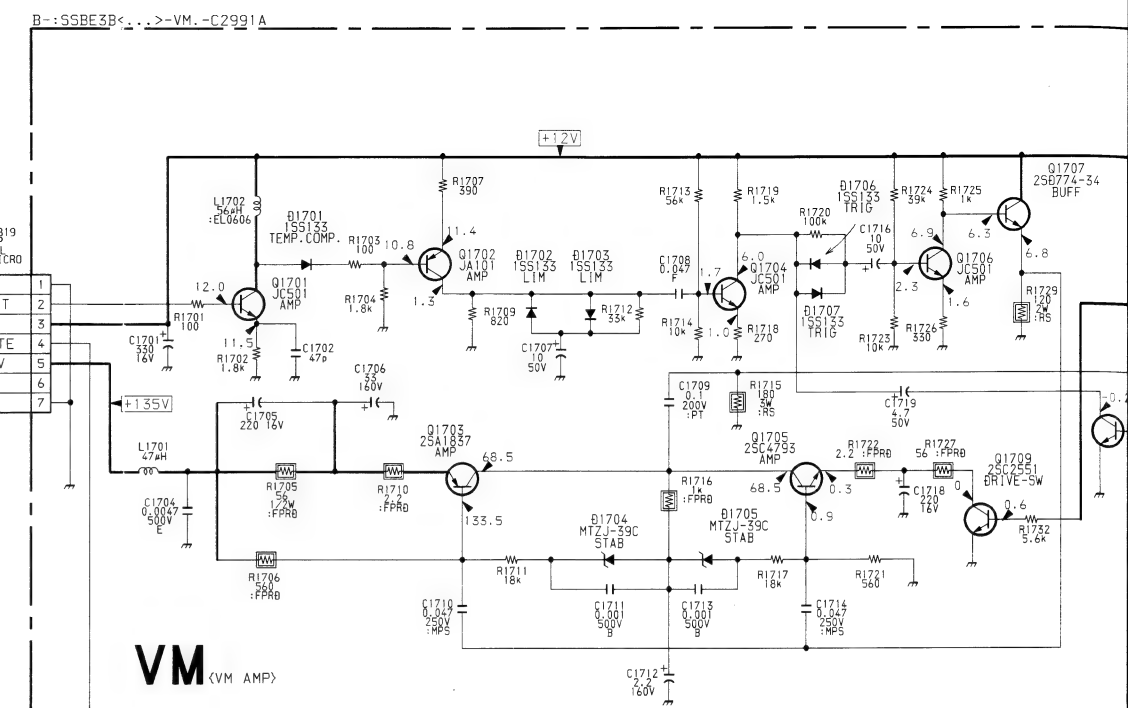


- A BOARD -

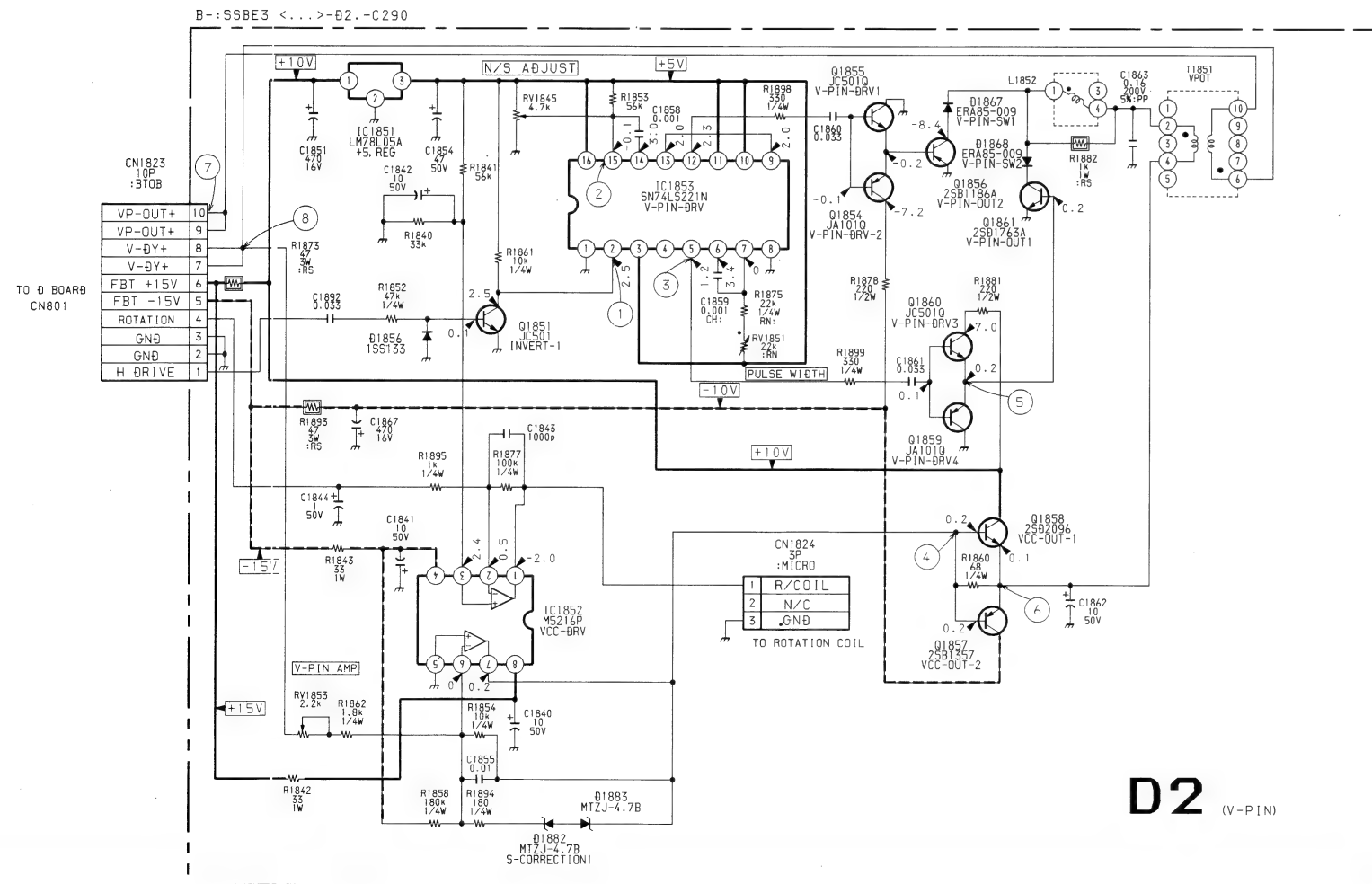
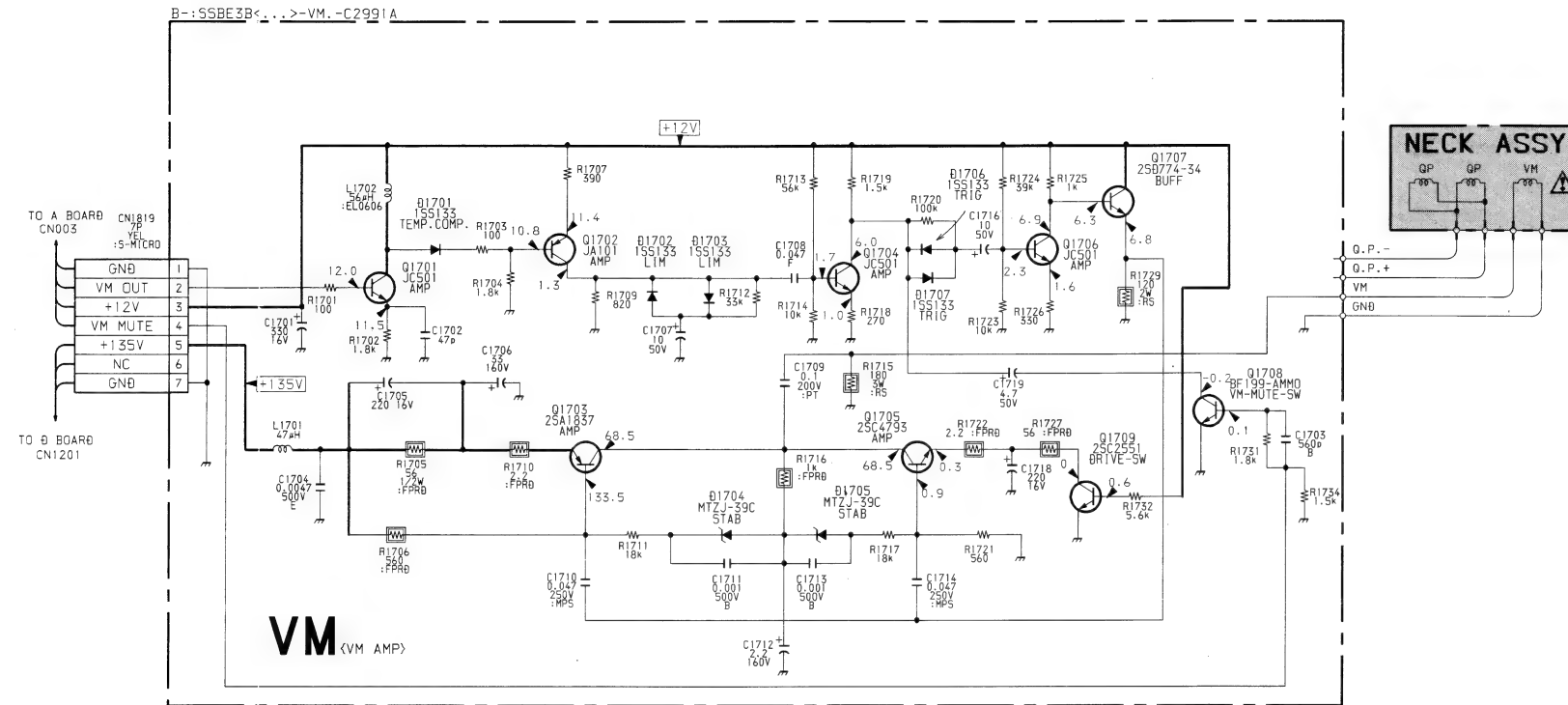
IC		Q312	G-11
IC001	E-15	Q313	G-13
IC002	F-14	Q314	E-6
IC003	E-7	Q380	F-10
IC101	A-17	Q381	F-10
IC201	C-14	Q401	E-19
IC202	C-8	Q402	C-3
IC301	D-18	Q403	C-4
IC302	E-5	Q404	C-21
IC303	E-6	Q406	E-20
IC401	D-20	Q407	B-2
IC1001	F-2	Q408	E-20
IC1002	G-21	Q1001	G-20
IC1003	F-19	DIODE	
IC1101	E-14	D6	F-14
TRANSISTOR		D7	F-14
Q4	F-9	D9	F-13
Q8	E-8	D11	E-8
Q11	E-7	D101	B-2
Q12	E-8	D102	B-5
Q14	F-15	D103	B-7
Q102	A-4	D108	A-8
Q103	B-5	D201	B-9
Q104	B-4	D301	C-17
Q105	B-5	D303	C-16
Q107	B-8	D304	C-7
Q108	B-13	D305	C-7
Q109	B-13	D314	C-4
Q114	C-15	D315	D-17
Q116	B-16	D401	D-3
Q117	B-16	D402	E-3
Q120	D-8	D404	D-3
Q121	A-1	D405	D-3
Q123	B-6	D406	D-3
Q124	A-15	D407	D-3
Q125	B-2	D408	D-3
Q126	A-15	D409	D-3
Q127	A-16	D410	D-2
Q128	A-15	D411	E-3
Q130	C-5	D1002	F-20
Q131	B-15	D1101	E-13
Q132	B-15	D1102	E-11
Q133	C-6	VARIABLE RESISTOR	
Q134	D-16	RV102	B-16
Q301	D-16		
Q304	F-6		

Note:

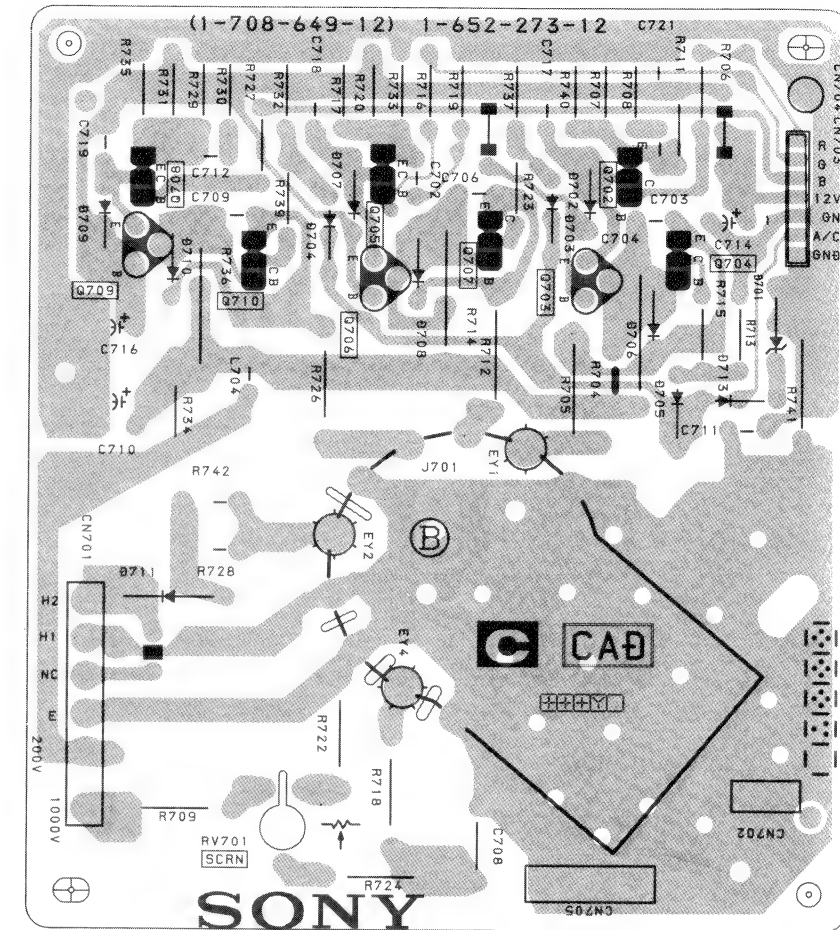
-  : Pattern from the side which enables seeing.
-  : Pattern of the rear side.



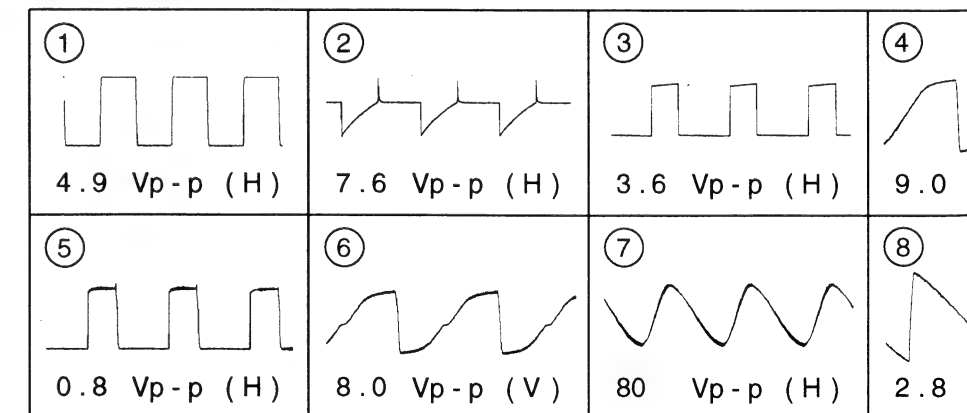




— C BOARD —



## WAVEFORMS D2 BOARD



**C**

[RGB OUT]

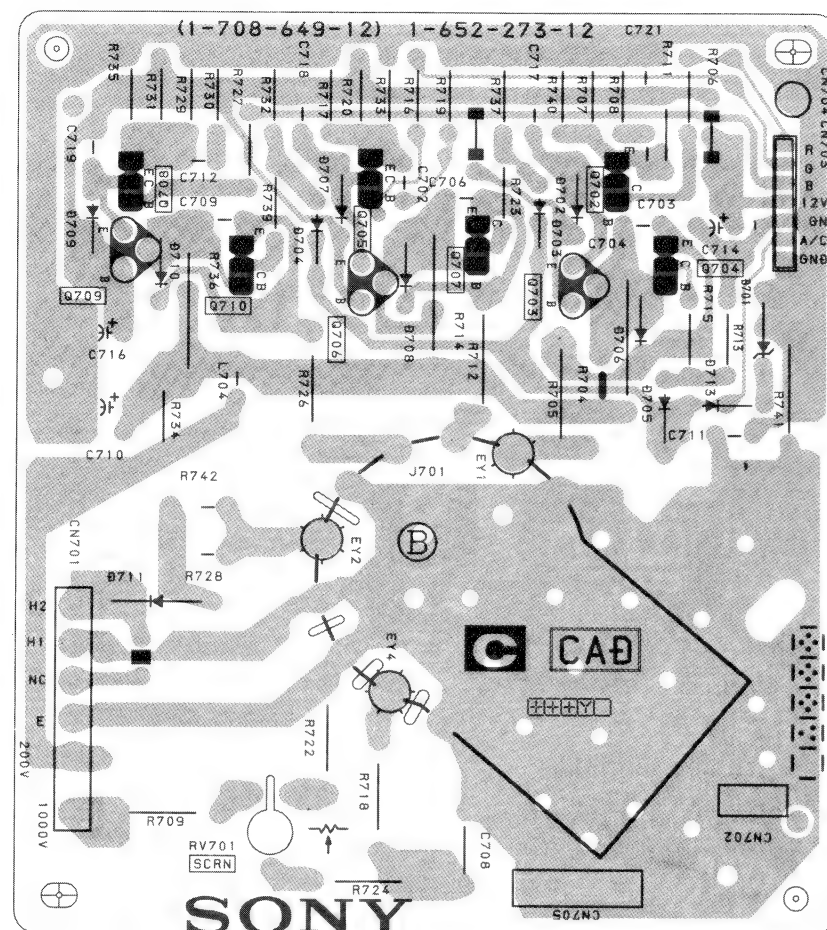
**D2**

[V-PIN]

**VM**

[VM AMP]

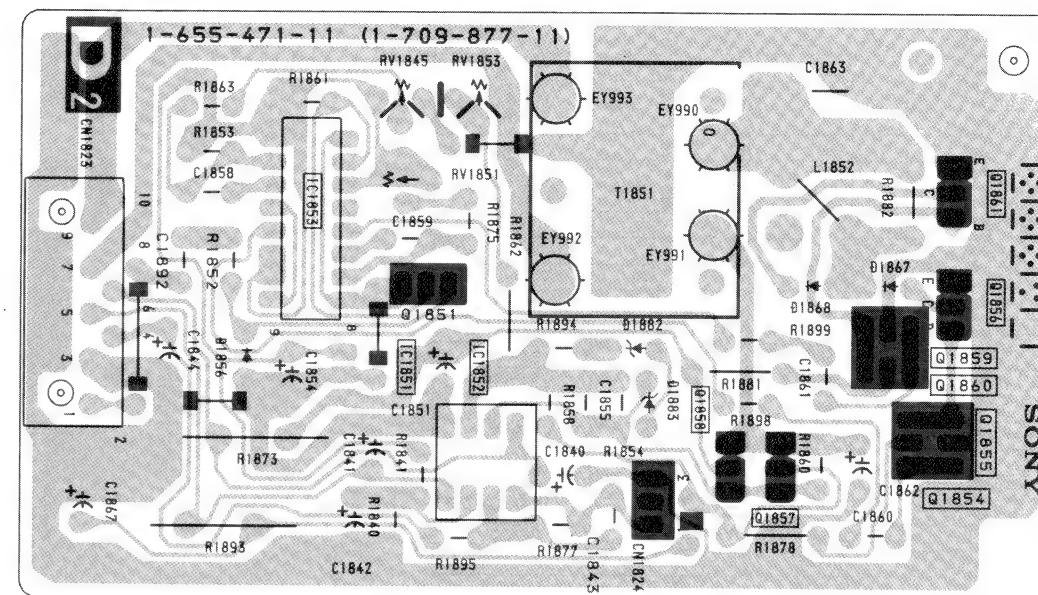
## — C BOARD —



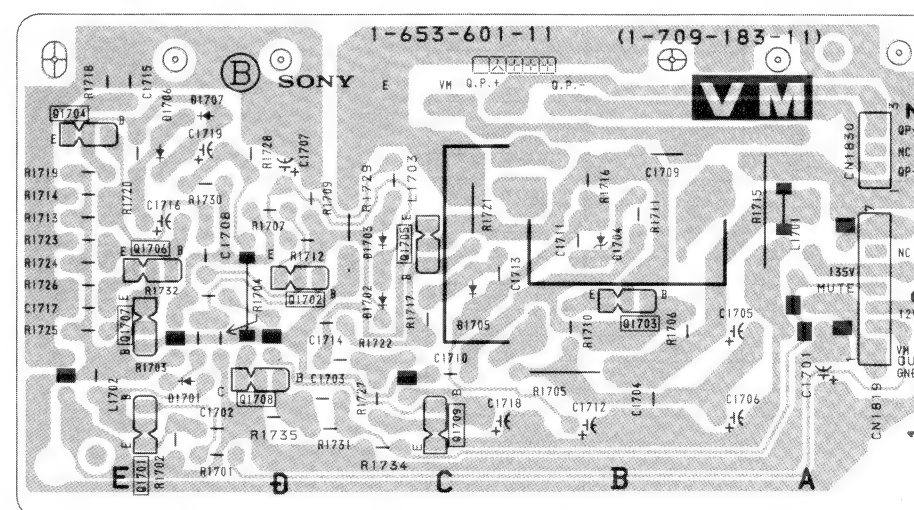
KV-C290

KV-C290

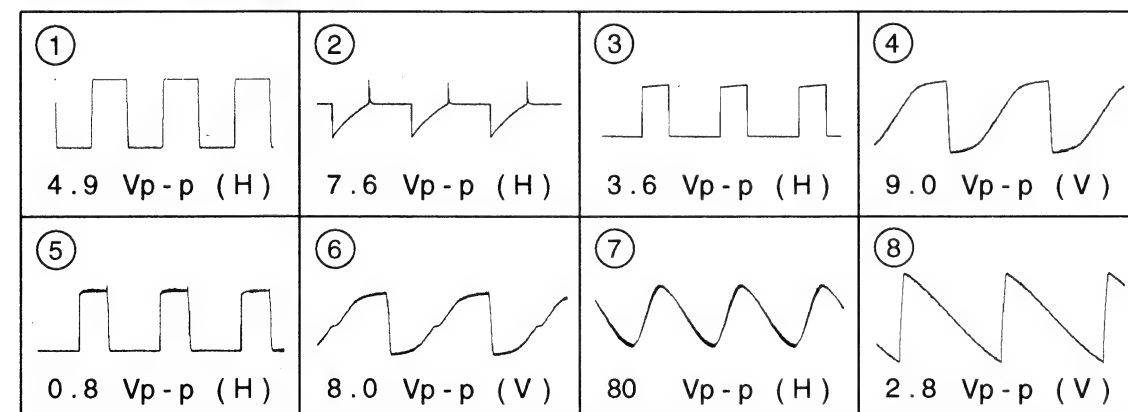
## — D2 BOARD —



## — VM BOARD —



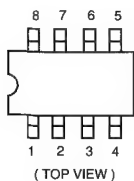
## WAVEFORMS D2 BOARD



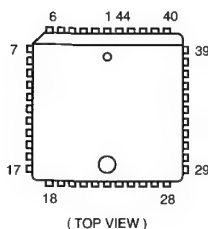


## 5-4. SEMICONDUCTORS

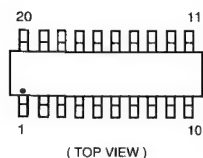
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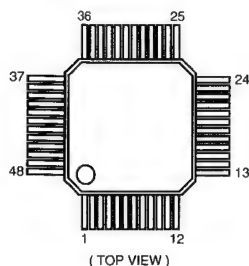
CF70200FN-R  
CF70203FN-F  
CF70205FN-R



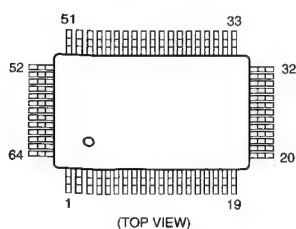
CF72416DW-R  
TDA8395T



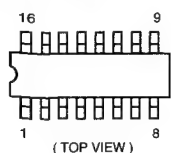
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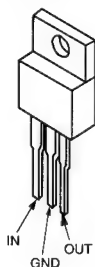
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SAA7283T  
TDA8366T



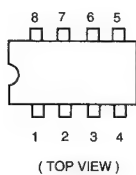
HD14053BFP  
MC14053BF



LM2940CT-5.0  
LM2940T-9.0  
MCT7812CT  
TA7812S  
 $\mu$ PC2405HF



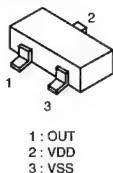
LM393P  
M5216P  
TDA2822M  
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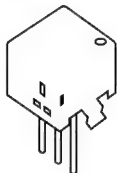
LM78L05ACZ



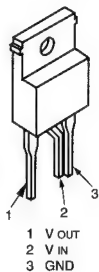
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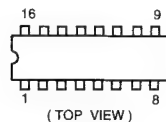
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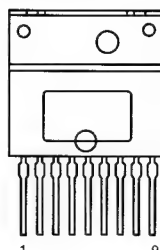
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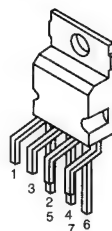
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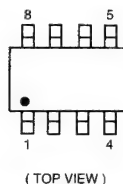
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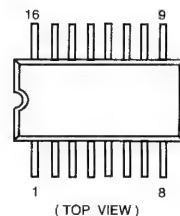
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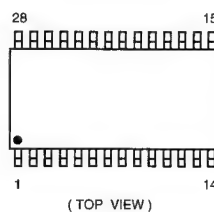
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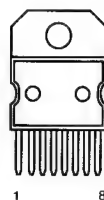
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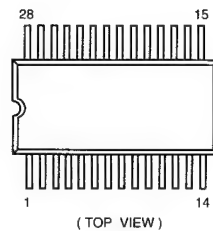
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TDA6622-5X-GEG



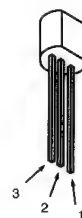
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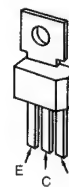
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TDA9814T



TL750L05CLPR



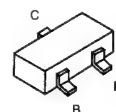
BF871



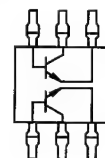
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DTC114ES  
DTC143TS  
DTC144ES



DTC114EK  
DTC144EK  
2SA1037K  
2SA1162-G  
2SC2412K



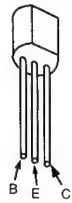
IMX1



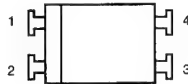
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JC501  
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2SA733-K  
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2SC2510-O  
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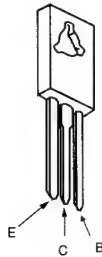
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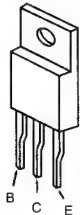
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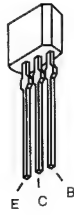
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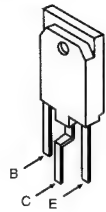
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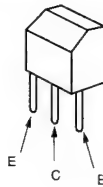
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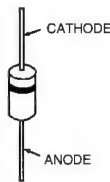
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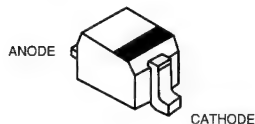
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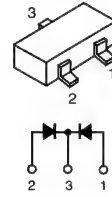
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EG-1Z-V1 GP08D  
EGP20G RGP02  
EL1Z RGP10GPKG23  
EL1Z-V1 RGP15GPKG23  
EM1-V1 RU3YX  
EU-1-V1 RU4DS  
EU-1Z



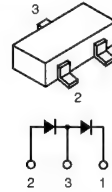
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MA8330  
1SS355  
1SV214



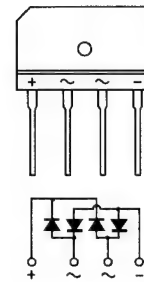
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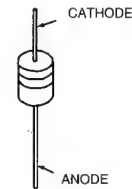
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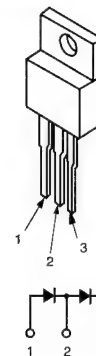
D4SB60L



ERA85-009 MTZJ-9.1C  
MTZJ-3.6A MTZJ-39C  
MTZJ-3.9B RD3.9ESB2  
MTZJ-4.7B RD5.1ESB2  
MTZJ-5.1B RD5.6ESB2  
MTZJ-5.6B RD6.8ESB2  
MTZJ-6.8C RD7.5ESB2  
MTZJ-7.5C RD9.1ESB3  
MTZJ-9.1 UZ-4.7BSC  
MTZJ-9.1A 1SS133



FMS-3FU



## SECTION 6

### EXPLODED VIEWS

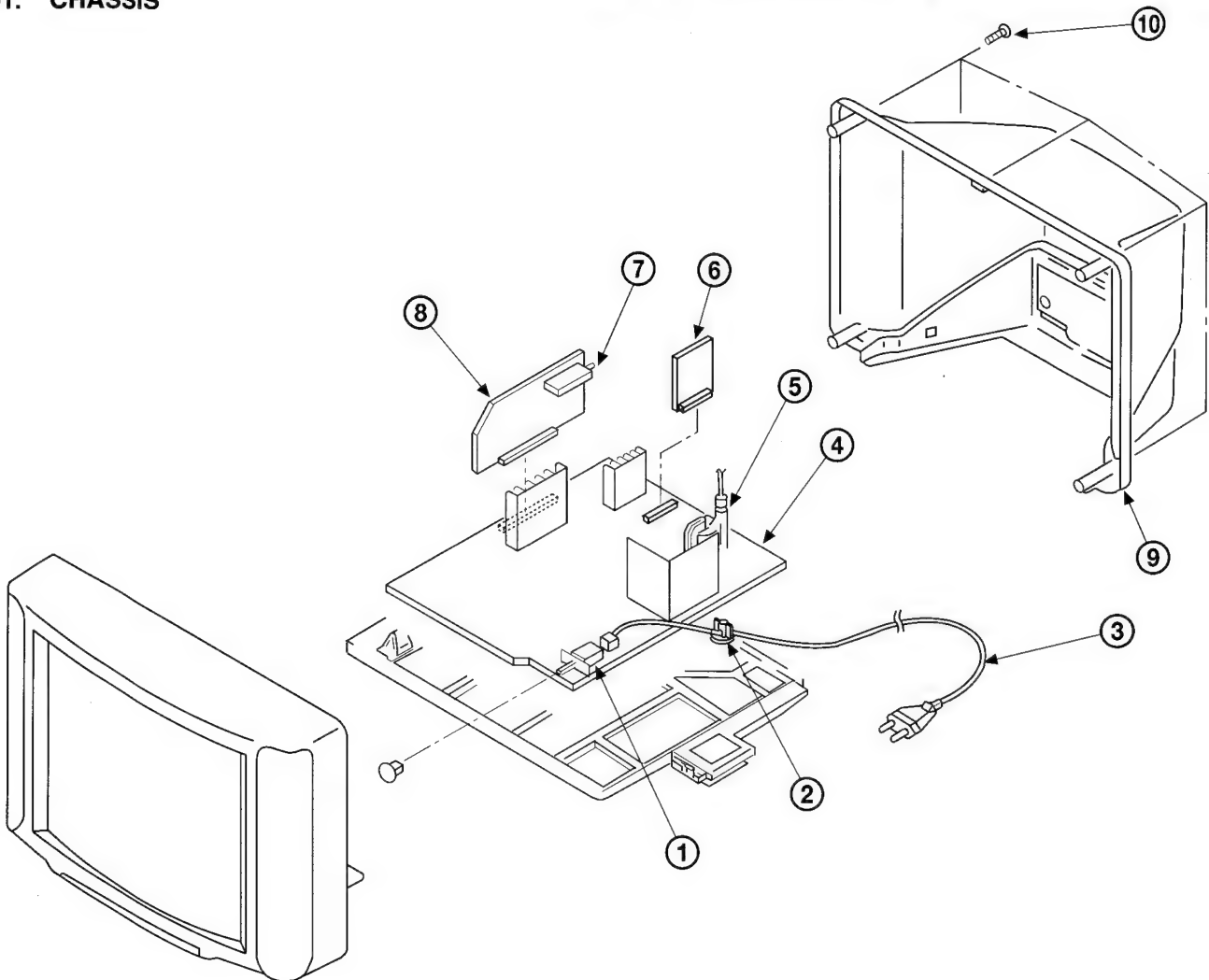
#### NOTE :

- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remarks column.
- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and marked  $\Delta$  are critical for safety.  
Replace only with the part number specified.

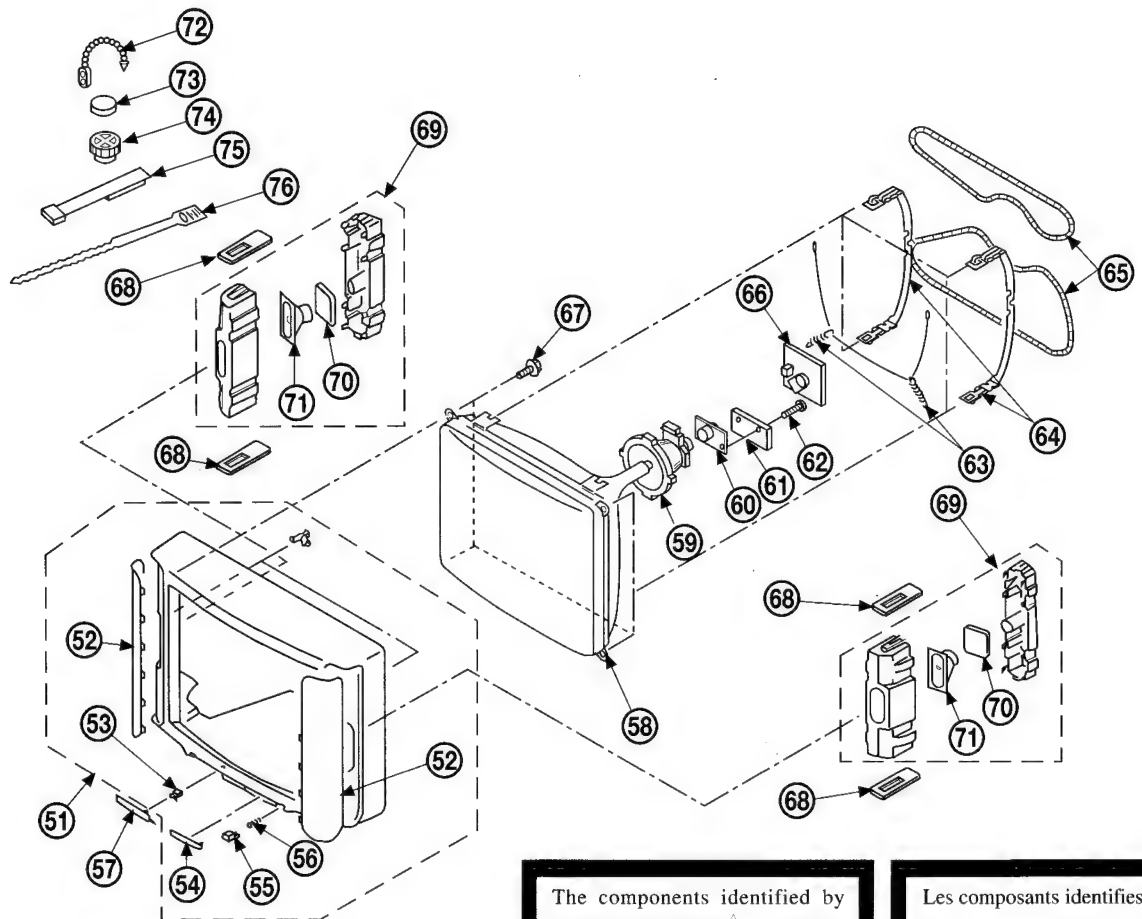
Les composants identifiés par une trame et une marque  $\Delta$  sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

#### 6-1. CHASSIS



REF NO	PART NO	DESCRIPTION	REMARK	REF NO	PART NO	DESCRIPTION	REMARK
1	$\Delta$ 1-571-433-12	SWITCH, PUSH (AC POWER)		8	*A-1632-266-A	A BOARD, COMPLETE (KV-C2901D/C2908D/C2909D)	
2	*4-202-531-01	AC CORD LOCK (SC)			*A-1632-276-A	A BOARD, COMPLETE (KV-C2903B/C2908B/C2909B)	
3	$\Delta$ 1-751-680-11	CORD, POWER (WITH NOISE FILTER) 2.5A/250V			*A-1632-277-A	A BOARD, COMPLETE (KV-C2903E/C2908E/C2909E)	
4	*A-1642-147-A	D BOARD, COMPLETE			*A-1632-278-A	A BOARD, COMPLETE (KV-C2901A)	
5	$\Delta$ 1-453-169-11	TRANSFORMER ASSY, FLYBACK (UX-1604A2)			*A-1632-279-A	A BOARD, COMPLETE (KV-C2901K/C2909K)	
6	*A-1640-173-A	D2 BOARD, COMPLETE		9	4-202-993-01	COVER, REAR	
7	1-693-185-11	TUNER (UV916H)		10	4-039-358-01	SCREW (4x16), (+) BV TAPPING	

## 6-2. PICTURE TUBE



The components identified by shading and marked  $\Delta$  are critical for safety.  
Replace only with the part number specified.

Les composants identifiés par une trame et une marque  $\Delta$  sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

REF NO	PART NO	DESCRIPTION	REMARK	REF NO	PART NO	DESCRIPTION	REMARK
51	X-4200-196-1	BEZNET ASSY (S) (KV-C2901A/C2901D/C2901K)	52 - 56	57	4-203-013-01	DOOR (PAINTED) (S) (KV-C2901A/C2903B/C2901D/C2903E/C2901K)	
	X-4200-202-1	BEZNET ASSY (W) (KV-C2908D)	52 - 56		4-203-013-11	DOOR (PAINTED) (W) (KV-C2908B/C2908D/C2908E)	
	X-4200-203-1	BEZNET ASSY (B-N) (KV-C2909B/C2909E)	52 - 56		4-203-013-21	DOOR (PAINTED) (B) (KV-C2909B/C2909D/C2909E/C2909K)	
	X-4200-204-1	BEZNET ASSY (S-N) (KV-C2903B/C2903E)	52 - 56	58	$\Delta$ 8-733-841-05	PICTURE TUBE (SD-269) (M68KZT10X)	
	X-4200-205-1	BEZNET ASSY (W-N) (KV-C2908B/C2908E)	52 - 56	59	$\Delta$ 8-451-422-11	DEFLECTION YOKE (Y290XA)	
	X-4200-206-1	BEZNET ASSY (B) (KV-C2909D/C2909K)	52 - 56	60	$\Delta$ 1-452-509-41	NECK ASSY, PICTURE TUBE (NA-300)	
52	X-4200-195-1	PANEL ASSY (S) (KV-C2901A/C2901D/C2901K)		61	*A-1644-052-A	VM BOARD, COMPLETE	
	X-4200-197-1	PANEL ASSY (W) (KV-C2908D)		62	4-039-356-01	SCREW (3x12), (+) BV TAPPING	
	X-4200-198-1	PANEL ASSY (B) (KV-C2909D/C2909K)		63	4-369-318-51	SPRING, TENSION	
	X-4200-199-1	PANEL ASSY (S-N) (KV-C2903B/C2903E)		64	4-202-749-01	HOLDER, DGC (29")	
	X-4200-200-1	PANEL ASSY (W-N) (KV-C2908B/C2908E)		65	$\Delta$ 1-406-807-11	COIL, DEGAUSSING	
	X-4200-201-1	PANEL ASSY (B-N) (KV-C2909B/C2909E)		66	*A-1638-058-A	C BOARD, COMPLETE	
53	4-392-036-01	CATCHER, PUSH		67	4-036-188-01	SCREW (M), PT	
54	4-202-981-01	WINDOW ORNAMENTAL		68	*4-202-988-01	CUSHION, BOX	
55	4-202-992-01	BUTTON, POWER		69	*A-1678-087-A	BOX ASSY	70 - 71
56	4-202-964-01	SPRING		70	4-200-999-01	STOPPER	
				71	1-504-146-11	SPEAKER (5x11CM)	
				72	4-308-870-00	CLIP, LEAD WIRE	
				73	1-452-032-00	MAGNET, DISK; 10MM $\emptyset$	
				74	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM $\emptyset$	
				75	X-4387-214-1	PERMALLOY ASSY, CORRECTION	
				76	3-701-007-00	BAND, BINDING	

## SECTION 7

### ELECTRICAL PARTS LIST

The components identified by shading and marked **A** are critical for safety.  
Replace only with the part number specified.

Les composants identifiés par une trame et une marque **A** sont critiques pour la sécurité.  
Ne les remplacer que par une pièce portant le numéro spécifié.

- Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

#### RESISTORS

- All resistors are in ohms
- F : nonflammable

When indicating parts by reference number, please include the board name.

#### CAPACITORS

MF : mF, PF : mmF

#### COILS

MMH : mH, μH : mH

A

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1632-266-A	A BOARD, COMPLETE (KV-C2901D/C2908D/ ***** C2909D)		C114	1-164-346-11	CERAMIC CHIP 1MF	16V
	*A-1632-276-A	A BOARD, COMPLETE (KV-C2903B/C2908B/ ***** C2909B)		C115	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V
	*A-1632-277-A	A BOARD, COMPLETE (KV-C2903E/C2908E/ ***** C2909E)		C117	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
	*A-1632-278-A	A BOARD, COMPLETE (KV-C2901A)		C118	1-164-489-11	CERAMIC CHIP 0.22MF	10% 16V
	*A-1632-279-A	A BOARD, COMPLETE (KV-C2901K/C2909K) *****		C119	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
< CAPACITOR >				C120	1-164-337-11	CERAMIC CHIP 2.2MF	16V
C1	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C121	1-124-126-00	ELECT 47MF	20% 16V
C2	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C122	1-124-126-00	ELECT 47MF	20% 16V
C3	1-126-964-11	ELECT 10MF	20% 50V	C123	1-163-090-00	CERAMIC CHIP 7PF	0.25PF 50V
C4	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C124	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C7	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C125	1-164-337-11	CERAMIC CHIP 2.2MF	16V
C8	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C126	1-164-337-11	CERAMIC CHIP 2.2MF	16V
C9	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C127	1-126-966-11	ELECT 33MF	20% 50V
C10	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C128	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C11	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C129	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C12	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C130	1-216-295-91	METAL GLAZE 0 5% 1/10W	
C13	1-126-933-11	ELECT 100MF	20% 16V	C131	1-124-126-00	ELECT 47MF	20% 16V
C15	1-163-105-00	CERAMIC CHIP 33PF	5% 50V	C132	1-124-126-00	ELECT 47MF	20% 16V
C16	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	C134	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C17	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C135	1-124-126-00	ELECT 47MF	20% 16V
C18	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	C137	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C19	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C139	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C21	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	C142	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C22	1-164-005-11	CERAMIC CHIP 0.47MF	25V	C143	1-126-101-11	ELECT 100MF	20% 16V
C23	1-163-251-11	CERAMIC CHIP 100PF	5% 50V	(KV-C2903B/C2908B/C2909B)			
C24	1-163-243-11	CERAMIC CHIP 47PF	5% 50V	C144	1-162-638-00	CERAMIC CHIP 1MF	16V
C30	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C145	1-162-093-00	CERAMIC CHIP 10PF	5% 50V
C101	1-124-927-11	ELECT 4.7MF	20% 50V	(EXCEPT KV-C2901D/C2908D/C2909D)			
		(KV-C2903B/C2908B/C2909B)		C146	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
	1-126-233-11	ELECT 22MF	20% 50V	(EXCEPT KV-C2901D/C2908D/C2909D)			
		(EXCEPT KV-C2903B/C2908B/C2909B)		C149	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C102	1-126-966-11	ELECT 33MF	20% 50V	(KV-C2901K/C2909K)			
C103	1-126-966-11	ELECT 33MF	20% 50V		1-216-295-91	METAL GLAZE 0 5% 1/10W	
C104	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	(EXCEPT KV-C2901K/C2909K)			
C105	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C152	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C106	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	C153	1-164-337-11	CERAMIC CHIP 2.2MF	16V
C107	1-164-346-11	CERAMIC CHIP 1MF	16V	C154	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
C108	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	(KV-C2903B/C2908B/C2909B)			
C109	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V		1-163-113-00	CERAMIC CHIP 68PF	5% 50V
C112	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	(EXCEPT KV-C2903B/C2908B/C2909B)			
C113	1-124-126-00	ELECT 47MF	20% 16V	C155	1-163-093-00	CERAMIC CHIP 10PF	5% 50V
				(EXCEPT KV-C2903B/C2908B/C2909B)			
				C157	1-163-105-00	CERAMIC CHIP 33PF	5% 50V
				(EXCEPT KV-C2903B/C2908B/C2909B)			
					1-163-113-00	CERAMIC CHIP 68PF	5% 50V
				(KV-C2903B/C2908B/C2909B)			



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C160	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	C335	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C162	1-163-022-00	CERAMIC CHIP 0.012MF	10% 50V	C336	1-126-933-11	ELECT 100MF	20% 16V
		(KV-C2903B/C2908B/C2909B)		C337	1-164-489-11	CERAMIC CHIP 0.22MF	10% 16V
C163	1-163-141-00	CERAMIC CHIP 0.001MF	5% 50V	C338	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
		(KV-C2903B/C2908B/C2909B)		C339	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C164	1-163-119-00	CERAMIC CHIP 120PF	5% 50V	C342	1-126-964-11	ELECT 10MF	20% 50V
C165	1-126-933-11	ELECT 100MF	20% 16V	C346	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C201	1-164-005-11	CERAMIC CHIP 0.47MF	25V	C347	1-163-113-00	CERAMIC CHIP 68PF	5% 50V
C202	1-163-137-00	CERAMIC CHIP 680PF	5% 50V	C348	1-163-113-00	CERAMIC CHIP 68PF	5% 50V
C203	1-126-964-11	ELECT 10MF	20% 50V	C349	1-163-113-00	CERAMIC CHIP 68PF	5% 50V
C204	1-164-182-11	CERAMIC CHIP 0.0033MF	10% 50V	C350	1-165-320-11	CERAMIC CHIP 0.47MF	10% 16V
C205	1-164-005-11	CERAMIC CHIP 0.47MF	25V	C351	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C206	1-164-346-11	CERAMIC CHIP 1MF	16V	C352	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C207	1-137-613-11	FILM 0.0018MF	2% 100V	C353	1-124-126-00	ELECT 47MF	20% 16V
C208	1-164-346-11	CERAMIC CHIP 1MF	16V	C355	1-163-113-00	CERAMIC CHIP 68PF	5% 50V
C209	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V	C359	1-164-005-11	CERAMIC CHIP 0.47MF	25V
C210	1-164-005-11	CERAMIC CHIP 0.47MF	25V	C361	1-126-964-11	ELECT 10MF	20% 50V
C211	1-164-005-11	CERAMIC CHIP 0.47MF	25V	C362	1-163-109-00	CERAMIC CHIP 47PF	5% 50V
C212	1-164-005-11	CERAMIC CHIP 0.47MF	25V	C363	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C215	1-163-023-00	CERAMIC CHIP 0.015MF	10% 50V			(KV-C2903B/C2908B/C2909B/C2901D/ C2908D/C2909D/C2901K/C2909K)	
C216	1-163-011-11	CERAMIC CHIP 0.0015MF	10% 50V	C365	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C219	1-163-023-00	CERAMIC CHIP 0.015MF	10% 50V	C382	1-126-964-11	ELECT 10MF	20% 50V
C220	1-163-011-11	CERAMIC CHIP 0.0015MF	10% 50V	C383	1-163-101-00	CERAMIC CHIP 22PF	5% 50V
C221	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	C399	1-163-097-00	CERAMIC CHIP 15PF	5% 50V
C222	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	C401	1-124-126-00	ELECT 47MF	20% 16V
C225	1-130-489-00	FILM 0.033MF	5% 50V	C402	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C226	1-130-489-00	FILM 0.033MF	5% 50V	C403	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C227	1-163-020-00	CERAMIC CHIP 0.0082MF	10% 50V	C404	1-124-126-00	ELECT 47MF	20% 16V
C228	1-163-020-00	CERAMIC CHIP 0.0082MF	10% 50V	C406	1-126-964-11	ELECT 10MF	20% 50V
C229	1-164-346-11	CERAMIC CHIP 1MF	16V	C407	1-164-346-11	CERAMIC CHIP 1MF	16V
C301	1-163-133-00	CERAMIC CHIP 470PF	5% 50V	C409	1-164-005-11	CERAMIC CHIP 0.47MF	25V
C302	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C410	1-164-005-11	CERAMIC CHIP 0.47MF	25V
C303	1-163-131-00	CERAMIC CHIP 390PF	5% 50V	C411	1-124-126-00	ELECT 47MF	20% 16V
C305	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C418	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
C306	1-126-933-11	ELECT 100MF	20% 16V	C420	1-216-295-91	METAL GLAZE 0 5%	1/10W
C307	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C421	1-126-966-11	ELECT 33MF	20% 50V
C308	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C422	1-163-121-00	CERAMIC CHIP 150PF	5% 50V
C309	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C423	1-124-126-00	ELECT 47MF	20% 16V
C310	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C425	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C311	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C426	1-164-346-11	CERAMIC CHIP 1MF	16V
C312	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C427	1-124-126-00	ELECT 47MF	20% 16V
C313	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C428	1-164-346-11	CERAMIC CHIP 1MF	16V
C314	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C429	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V
C315	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C430	1-124-126-00	ELECT 47MF	20% 16V
C316	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C431	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V
C318	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C432	1-124-126-00	ELECT 47MF	20% 16V
C320	1-124-126-00	ELECT 47MF	20% 16V	C433	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C321	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C434	1-164-346-11	CERAMIC CHIP 1MF	16V
C322	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	C435	1-126-933-11	ELECT 100MF	20% 16V
C323	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C436	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C324	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C437	1-164-346-11	CERAMIC CHIP 1MF	16V
C325	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C438	1-163-133-00	CERAMIC CHIP 470PF	5% 50V
C326	1-164-161-11	CERAMIC CHIP 0.0022MF	10% 50V	C445	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C327	1-136-165-00	FILM 0.1MF	5% 50V	C1002	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V
C328	1-164-337-11	CERAMIC CHIP 2.2MF	16V	C1003	1-163-037-11	CERAMIC CHIP 0.022MF	10% 50V
C329	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	C1004	1-163-097-00	CERAMIC CHIP 15PF	5% 50V
C330	1-163-017-00	CERAMIC CHIP 0.0047MF	10% 50V	C1005	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V
C331	1-165-320-11	CERAMIC CHIP 0.47MF	10% 16V	C1006	1-163-037-11	CERAMIC CHIP 0.022MF	10% 50V
C332	1-163-097-00	CERAMIC CHIP 15PF	5% 50V	C1007	1-163-125-00	CERAMIC CHIP 220PF	5% 50V
C334	1-163-016-00	CERAMIC CHIP 0.0039MF	10% 50V				

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
C1008	1-163-125-00	CERAMIC CHIP 220PF	5% 50V	< FILTER >			
C1009	1-163-097-00	CERAMIC CHIP 15PF	5% 50V	CF101	1-760-154-11	TRAP, CERAMIC	
C1011	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V	CF102	1-404-134-00	TRAP, CERAMIC (5.5MHZ)	
C1013	1-164-346-11	CERAMIC CHIP 1MF	16V		1-404-430-11	TRAP, CERAMIC (6.5MHZ)	(KV-C2903B/C2908B/C2909B)
C1015	1-164-232-11	CERAMIC CHIP 0.01MF	10% 50V				(KV-C2903B/C2908B/C2909B)
C1016	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	CF103	1-760-106-11	FILTER, CERAMIC	
C1018	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	CF104	1-567-100-11	FILTER, CERAMIC	(KV-C2903B/C2908B/C2909B)
C1019	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V		1-567-101-00	FILTER, CERAMIC	(KV-C2901D/C2908D/C2909D/C2901K/C2909K)
C1020	1-126-233-11	ELECT 22MF	20% 50V				
C1021	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	CF106	1-760-107-11	FILTER, CERAMIC	
C1024	1-163-009-11	CERAMIC CHIP 0.001MF	10% 50V	CF108	1-760-107-11	FILTER, CERAMIC	(KV-C2901D/C2908D/C2909D)
C1025	1-124-126-00	ELECT 47MF	20% 16V	SWF101	1-579-273-11	FILTER, SURFACE WAVE	
C1026	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	SWF102	1-760-244-11	FILTER, SURFACE WAVE	(KV-C2903B/C2908B/C2909B)
C1027	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V		1-760-329-11	FILTER, SURFACE WAVE	(EXCEPT KV-C2903B/C2908B/C2909B)
C1028	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	< CONNECTOR >			
C1029	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	CN001	1-695-302-11	CONNECTOR, BOARD TO BOARD 50P	
C1030	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	CN002	*1-568-882-51	PIN, CONNECTOR 7P	
C1031	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	CN003	*1-568-879-11	PIN, CONNECTOR 4P	
C1032	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	< DIODE >			
C1033	1-126-964-11	ELECT 10MF	20% 50V	D1	8-719-023-25	DIODE MA704WK	
C1034	1-164-346-11	CERAMIC CHIP 1MF	16V	D6	8-719-047-41	DIODE UMZ12N	
< C1101-C1139 FITTED ON >				D7	8-719-988-62	DIODE 1SS355	
< KV-C2903B/C2908B/C2909B/C2903E/C2908E/C2909E >				D9	8-719-988-62	DIODE 1SS355	
C1101	1-163-131-00	CERAMIC CHIP 390PF	5% 50V	D11	8-719-988-62	DIODE 1SS355	
C1102	1-163-093-00	CERAMIC CHIP 10PF	5% 50V	D101	8-719-977-81	DIODE DTZ33B	
C1103	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D102	8-719-914-43	DIODE DAN202K (KV-C2903B/C2908B/C2909B)	
C1104	1-126-964-11	ELECT 10MF	20% 50V	D103	8-719-914-43	DIODE DAN202K	(KV-C2903B/C2908B/C2909B/C2901D/C2908D/C2909D/C2901K/C2909K)
C1105	1-126-964-11	ELECT 10MF	20% 50V				
C1106	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D201	8-719-914-42	DIODE DA204K	
C1107	1-124-126-00	ELECT 47MF	20% 16V	D301	8-719-988-62	DIODE 1SS355	
C1108	1-126-964-11	ELECT 10MF	20% 50V	D303	8-719-988-62	DIODE 1SS355	
C1110	1-163-809-11	CERAMIC CHIP 0.047MF	10% 25V	D304	8-719-988-62	DIODE 1SS355	
C1111	1-164-489-11	CERAMIC CHIP 0.22MF	10% 16V	D305	8-719-988-62	DIODE 1SS355	
C1112	1-164-489-11	CERAMIC CHIP 0.22MF	10% 16V	D314	8-719-047-16	DIODE BAS216	
C1113	1-163-137-00	CERAMIC CHIP 680PF	5% 50V	D315	8-719-988-62	DIODE 1SS355	
C1116	1-124-126-00	ELECT 47MF	20% 16V	D380	1-216-295-91	METAL GLAZE 0 5% 1/10W	
C1117	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D401	8-719-047-41	DIODE UMZ12N	
C1118	1-124-126-00	ELECT 47MF	20% 16V	D402	8-719-047-41	DIODE UMZ12N	
C1119	1-124-126-00	ELECT 47MF	20% 16V	D404	8-719-047-41	DIODE UMZ12N	
C1120	1-163-137-00	CERAMIC CHIP 680PF	5% 50V	D405	8-719-047-41	DIODE UMZ12N	
C1122	1-124-126-00	ELECT 47MF	20% 16V	D406	8-719-047-41	DIODE UMZ12N	
C1123	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D407	8-719-047-41	DIODE UMZ12N	
C1124	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V	D408	8-719-047-41	DIODE UMZ12N	
C1125	1-165-320-11	CERAMIC CHIP 0.47MF	10% 16V	D409	8-719-047-41	DIODE UMZ12N	
C1126	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	D410	8-719-047-41	DIODE UMZ12N	
C1127	1-163-117-00	CERAMIC CHIP 100PF	5% 50V	D411	8-719-047-41	DIODE UMZ12N	
C1128	1-163-037-11	CERAMIC CHIP 0.022MF	10% 25V	D1002	8-719-914-43	DIODE DAN202K	
C1129	1-162-568-11	CERAMIC CHIP 0.33MF	25V	D1101	8-719-988-62	DIODE 1SS355	(KV-C2903B/C2908B/C2909B/C2903E/C2908E/C2909E)
C1130	1-124-903-11	ELECT 1MF	20% 50V				
C1131	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				
C1132	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				
C1133	1-124-126-00	ELECT 47MF	20% 16V				
C1134	1-126-964-11	ELECT 10MF	20% 50V				
C1135	1-163-125-00	CERAMIC CHIP 220PF	5% 50V				
C1136	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				
C1137	1-163-095-00	CERAMIC CHIP 12PF	5% 50V				
C1139	1-164-004-11	CERAMIC CHIP 0.1MF	10% 25V				





REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
D1102	8-719-820-71	DIODE 1SV214 (KV-C2903B/C2908B/C2909B/C2903E/ C2908E/C2909E)		L201	1-410-067-21	INDUCTOR 4.7MMH	
< IC >				L307	1-408-609-41	INDUCTOR 33UH	
IC001	8-752-863-45	IC CXP85340A-SVS190 (EXCEPT KV-C2903E/C2908E/C2909E)		L308	1-408-424-00	INDUCTOR 180UH	
	8-752-864-34	IC CXP85340A-SV5190 (KV-C2903E/C2908E/C2909E)		L309	1-408-424-00	INDUCTOR 180UH	
IC002	8-759-334-20	IC ST24E32M6TR		L310	1-408-407-00	INDUCTOR 6.8UH	
IC003	8-759-041-54	IC MN1382S		L313	1-216-295-91	METAL GLAZE 0 5% 1/10W	
IC101	8-759-277-66	IC TDA9814T/V2 (KV-C2903B/C2908B/C2909B)		L315	1-412-008-11	INDUCTOR CHIP 15UH	
	8-759-289-18	IC TDA9813T (EXCEPT KV-C2903B/C2908B/C2909B)		L401	1-410-214-31	INDUCTOR CHIP 68UH	
				L1001	1-408-419-00	INDUCTOR 68UH	
				L1002	1-408-419-00	INDUCTOR 68UH	
IC201	8-759-252-14	IC TDA6612-5X-GEG		L1003	1-410-999-11	INDUCTOR CHIP 3.3UH	
IC202	8-759-514-57	IC BA7046F		L1101	1-412-004-31	INDUCTOR CHIP 6.8UH (KV-C2903B/C2908B/C2909B/C2903E/ C2908E/C2909E)	
IC301	8-759-366-44	IC TDA8366T-N3M		< TRANSISTOR >			
IC302	8-759-288-85	IC TDA4665T		Q1	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC303	8-759-251-56	IC TDA8395T (KV-C2903B/C2908B/C2909B/C2901D/ C2908D/C2909D/C2901K/C2909K)		Q2	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC401	8-752-069-53	IC CXA1855Q		Q4	8-729-901-01	TRANSISTOR DTC144EK	
IC1001	8-759-295-92	IC CF72416DW-R		Q8	8-729-920-74	TRANSISTOR 2SC2412K-QR	
				Q11	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC1002	8-759-252-10	IC CF70200FN-R (KV-C2901A/C2903E/C2908E/C2909E/ C2903B/C2908B/C2909B/C2901K/C2909K)		Q12	8-729-920-74	TRANSISTOR 2SC2412K-QR	
	8-759-336-09	IC CF70203FN-F (KV-C2901D/C2908D/C2909D)		Q14	8-729-920-74	TRANSISTOR 2SC2412K-QR	
IC1003	8-759-300-71	IC HD14053BFP		Q102	8-729-144-93	TRANSISTOR MPA502T	
IC1101	8-759-251-58	IC SAA7283T (KV-C2903B/C2908B/C2909B/C2903E/ C2908E/C2909E)		Q103	8-729-900-53	TRANSISTOR DTC114EK (KV-C2903B/C2908B/C2909B)	
< SOCKET >				Q104	8-729-900-53	TRANSISTOR DTC114EK (KV-C2903B/C2908B/C2909B)	
J401	1-766-296-11	CONNECTOR, DUAL SCART		Q105	8-729-900-53	TRANSISTOR DTC114EK (KV-C2903B/C2908B/C2909B)	
< COIL >				Q107	8-729-920-74	TRANSISTOR 2SC2412K-QR	
L1	1-410-385-11	INDUCTOR CHIP 22UH		Q108	8-729-907-26	TRANSISTOR IMX1	
L100	1-410-989-11	INDUCTOR CHIP 0.47UH		Q109	8-729-907-26	TRANSISTOR IMX1	
L101	1-408-609-41	INDUCTOR 33UH		Q114	8-729-920-74	TRANSISTOR 2SC2412K-QR	
L102	1-410-214-31	INDUCTOR CHIP 68UH		Q116	8-729-901-01	TRANSISTOR DTC114EK (KV-C2903B/C2908B/C2909B/C2901D/ C2908D/C2909D/C2901K/C2909K)	
L103	1-408-609-41	INDUCTOR 33UH		Q117	8-729-901-01	TRANSISTOR DTC144EK (KV-C2903B/C2908B/C2909B/C2901D/ C2908D/C2909D/C2901K/C2909K)	
L104	1-414-170-11	INDUCTOR CHIP 100UH (KV-C2903B/C2908B/C2909B)		Q120	8-729-216-22	TRANSISTOR 2SA1162-G	
L105	1-408-406-00	INDUCTOR 5.6UH (KV-C2903B/C2908B/C2909B)		Q121	8-729-216-22	TRANSISTOR 2SA1162-G (KV-C2903B/C2908B/C2909B)	
	1-408-410-00	INDUCTOR 12UH (EXCEPT KV-C2903B/C2908B/C2909B)		Q123	8-729-901-01	TRANSISTOR DTC144EK	
L106	1-412-011-31	INDUCTOR CHIP 27UH		Q124	8-729-901-01	TRANSISTOR DTC144EK	
L107	1-410-985-11	INDUCTOR CHIP 0.22UH		Q125	8-729-900-53	TRANSISTOR DTC114EK (KV-C2903B/C2908B/C2909B)	
L108	1-408-414-00	INDUCTOR 27UH (KV-C2903B/C2908B/C2909B)		Q130	8-729-920-74	TRANSISTOR 2SC2412K-QR	
	1-408-609-41	INDUCTOR 33UH (EXCEPT KV-C2903B/C2908B/C2909B)		Q131	8-729-216-22	TRANSISTOR 2SA1162-G	
L109	1-412-010-41	INDUCTOR CHIP 22UH		Q132	8-729-920-74	TRANSISTOR 2SC2412K-QR	
L110	1-412-004-31	INDUCTOR CHIP 6.8UH		Q133	8-729-920-74	TRANSISTOR 2SC2412K-QR	
L111	1-414-170-11	INDUCTOR CHIP 100UH		Q134	8-729-900-53	TRANSISTOR DTC114EK	
L112	1-410-200-31	INDUCTOR CHIP 4.7UH		Q301	8-729-901-01	TRANSISTOR DTC144EK	
				Q304	8-729-920-74	TRANSISTOR 2SC2412K-QR	
				Q312	8-729-920-74	TRANSISTOR 2SC2412K-QR	
				Q313	8-729-920-74	TRANSISTOR 2SC2412K-QR	
				Q314	8-729-900-53	TRANSISTOR DTC114EK	
				Q380	8-729-920-74	TRANSISTOR 2SC2412K-QR	
				Q381	8-729-920-74	TRANSISTOR 2SC2412K-QR	
				Q401	8-729-920-74	TRANSISTOR 2SC2412K-QR	
				Q402	8-729-920-74	TRANSISTOR 2SC2412K-QR	



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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
Q403	8-729-920-74	TRANSISTOR 2SC2412K-QR		R1	1-216-222-00	METAL GLAZE 10K 5%	1/8W
Q404	8-729-920-74	TRANSISTOR 2SC2412K-QR		R2	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q406	8-729-216-22	TRANSISTOR 2SA1162-G		R6	1-216-025-00	METAL GLAZE 100 5%	1/10W
Q407	8-729-920-65	TRANSISTOR DTC123EK		R20	1-216-073-00	METAL GLAZE 10K 5%	1/10W
Q408	8-729-920-74	TRANSISTOR 2SC2412K-QR		R21	1-216-033-00	METAL GLAZE 220 5%	1/10W
Q1001	8-729-920-74	TRANSISTOR 2SC2412K-QR		R24	1-216-049-00	METAL GLAZE 1K 5%	1/10W
< RESISTOR >				R25	1-216-073-00	METAL GLAZE 10K 5%	1/10W
JR3	1-216-295-91	METAL GLAZE 0 5%	1/10W	R26	1-216-174-00	METAL GLAZE 100 5%	1/8W
JR8	1-216-295-91	METAL GLAZE 0 5%	1/10W	R27	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
JR9	1-216-295-91	METAL GLAZE 0 5%	1/10W	R29	1-216-049-00	METAL GLAZE 1K 5%	1/10W
JR10	1-216-295-91	METAL GLAZE 0 5%	1/10W	R31	1-216-049-00	METAL GLAZE 1K 5%	1/10W
JR12	1-216-295-91	METAL GLAZE 0 5%	1/10W	R33	1-216-063-00	METAL GLAZE 3.9K 5%	1/10W
JR13	1-216-295-91	METAL GLAZE 0 5%	1/10W	R35	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
JR14	1-216-295-91	METAL GLAZE 0 5%	1/10W	R37	1-216-049-00	METAL GLAZE 1K 5%	1/10W
JR15	1-216-295-91	METAL GLAZE 0 5%	1/10W	R38	1-216-049-00	METAL GLAZE 1K 5%	1/10W
JR16	1-216-295-91	METAL GLAZE 0 5%	1/10W	R41	1-216-073-00	METAL GLAZE 10K 5%	1/10W
JR17	1-216-295-91	METAL GLAZE 0 5%	1/10W	R42	1-216-073-00	METAL GLAZE 10K 5%	1/10W
JR18	1-216-295-91	METAL GLAZE 0 5%	1/10W	R43	1-216-073-00	METAL GLAZE 10K 5%	1/10W
JR19	1-216-295-91	METAL GLAZE 0 5%	1/10W	R44	1-216-121-00	METAL GLAZE 1M 5%	1/10W
JR22	1-216-295-91	METAL GLAZE 0 5%	1/10W	R46	1-216-049-00	METAL GLAZE 1K 5%	1/10W
JR25	1-412-006-31	INDUCTOR CHIP 10UH		R47	1-216-073-00	METAL GLAZE 10K 5%	1/10W
JR26	1-412-006-31	INDUCTOR CHIP 10UH		R49	1-216-025-00	METAL GLAZE 100 5%	1/10W
JR28	1-216-296-00	METAL GLAZE 0 5%	1/8W	R50	1-216-049-00	METAL GLAZE 1K 5%	1/10W
JR29	1-412-006-31	INDUCTOR CHIP 10UH		R51	1-216-049-00	METAL GLAZE 1K 5%	1/10W
JR51	1-216-296-00	METAL GLAZE 0 5%	1/8W	R52	1-216-049-00	METAL GLAZE 1K 5%	1/10W
JR52	1-216-295-91	METAL GLAZE 0 5%	1/10W	R53	1-216-073-00	METAL GLAZE 10K 5%	1/10W
JR55	1-216-296-00	METAL GLAZE 0 5%	1/8W	R54	1-216-049-00	METAL GLAZE 1K 5%	1/10W
JR56	1-216-296-00	METAL GLAZE 0 5%	1/8W	R55	1-216-025-00	METAL GLAZE 100 5%	1/10W
JR59	1-216-296-00	METAL GLAZE 0 5%	1/8W	R56	1-216-025-00	METAL GLAZE 100 5%	1/10W
JR60	1-216-296-00	METAL GLAZE 0 5%	1/8W	R57	1-216-025-00	METAL GLAZE 100 5%	1/10W
JR61	1-216-296-00	METAL GLAZE 0 5%	1/8W	R58	1-216-025-00	METAL GLAZE 100 5%	1/10W
JR62	1-216-296-00	METAL GLAZE 0 5%	1/8W	R59	1-216-121-00	METAL GLAZE 1M 5%	1/10W
JR65	1-216-296-00	METAL GLAZE 0 5%	1/8W	R60	1-216-025-00	METAL GLAZE 100 5%	1/10W
JR69	1-216-295-91	METAL GLAZE 0 5%	1/10W	R61	1-216-025-00	METAL GLAZE 100 5%	1/10W
JR71	1-216-296-00	METAL GLAZE 0 5%	1/8W	R62	1-216-073-00	METAL GLAZE 10K 5%	1/10W
JR120	1-216-295-91	METAL GLAZE 0 5%	1/10W	R63	1-216-073-00	METAL GLAZE 10K 5%	1/10W
JR122	1-216-295-91	METAL GLAZE 0 5%	1/10W	R64	1-216-073-00	METAL GLAZE 10K 5%	1/10W
(EXCEPT KV-C2903B/C2908B/C2909B)				R66	1-216-033-00	METAL GLAZE 220 5%	1/10W
JR123	1-216-295-91	METAL GLAZE 0 5%	1/10W	R67	1-216-025-00	METAL GLAZE 100 5%	1/10W
(EXCEPT KV-C2903B/C2908B/C2909B)				R68	1-216-025-00	METAL GLAZE 100 5%	1/10W
JR124	1-216-295-91	METAL GLAZE 0 5%	1/10W	R69	1-216-025-00	METAL GLAZE 100 5%	1/10W
JR125	1-216-295-91	METAL GLAZE 0 5%	1/10W	R70	1-216-049-00	METAL GLAZE 1K 5%	1/10W
(KV-C2901A/C2903E/C2908E/C2909E)				R71	1-216-081-00	METAL GLAZE 22K 5%	1/10W
JR126	1-216-295-91	METAL GLAZE 0 5%	1/10W	R72	1-216-081-00	METAL GLAZE 22K 5%	1/10W
JR201	1-216-295-91	METAL GLAZE 0 5%	1/10W	R73	1-216-677-11	METAL CHIP 12K 0.50%	1/10W
(KV-C2901A/C2901D/C2908D/C2909D/C2901K/C2909K)				R75	1-216-081-00	METAL GLAZE 22K 5%	1/10W
JR202	1-216-295-91	METAL GLAZE 0 5%	1/10W	R76	1-216-073-00	METAL GLAZE 10K 5%	1/10W
(KV-C2901A/C2901D/C2908D/C2909D/C2901K/C2909K)				R77	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
JR302	1-216-295-91	METAL GLAZE 0 5%	1/10W	R78	1-216-037-00	METAL GLAZE 330 5%	1/10W
JR401	1-216-295-91	METAL GLAZE 0 5%	1/10W	R79	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
(KV-C2903B/C2908B/C2909B)				R82	1-216-073-00	METAL GLAZE 10K 5%	1/10W
JR402	1-216-295-91	METAL GLAZE 0 5%	1/10W	R83	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
(KV-C2903B/C2908B/C2909B)				R84	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
JR403	1-216-295-91	METAL GLAZE 0 5%	1/10W	R85	1-216-025-00	METAL GLAZE 100 5%	1/10W
(KV-C2903B/C2908B/C2909B)				R86	1-216-025-00	METAL GLAZE 100 5%	1/10W
JR408	1-216-295-91	METAL GLAZE 0 5%	1/10W	R87	1-216-073-00	METAL GLAZE 10K 5%	1/10W
JR1004	1-216-295-91	METAL GLAZE 0 5%	1/10W	R88	1-216-065-00	METAL GLAZE 4.7K 5%	1/10W
				R89	1-216-073-00	METAL GLAZE 10K 5%	1/10W
				R90	1-216-073-00	METAL GLAZE 10K 5%	1/10W
				R91	1-216-049-00	METAL GLAZE 1K 5%	1/10W


REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R92	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R150	1-216-295-91	METAL GLAZE	0 5% 1/10W
R93	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R151	1-216-081-00	METAL GLAZE	22K 5% 1/10W
R94	1-216-039-00	METAL GLAZE	390 5% 1/10W	R152	1-216-174-00	METAL GLAZE	100 5% 1/8W
R95	1-216-049-00	METAL GLAZE	1K 5% 1/10W				
R96	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W	R153	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
R97	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R154	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
R99	1-216-049-00	METAL GLAZE	1K 5% 1/10W	R155	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R101	1-216-675-11	METAL CHIP	10K 0.50% 1/10W	R156	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R103	1-216-679-11	METAL CHIP	15K 0.50% 1/10W	R157	1-216-295-91	METAL GLAZE	0 5% 1/10W
R104	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R160	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R105	1-216-025-00	METAL GLAZE	100 5% 1/10W	R161	1-216-031-00	METAL GLAZE	180 5% 1/10W
R106	1-216-025-00	METAL GLAZE	100 5% 1/10W	R162	1-216-017-00	METAL GLAZE	47 5% 1/10W
R107	1-216-053-00	METAL GLAZE	1.5K 5% 1/10W	R163	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R108	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W	R164	1-216-025-00	METAL GLAZE	100 5% 1/10W
R109	1-216-180-00	METAL GLAZE	180 5% 1/8W	R165	1-216-089-00	METAL GLAZE	47K 5% 1/10W
R110	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R166	1-216-097-00	METAL GLAZE	100K 5% 1/10W
R111	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R167	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R112	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R168	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R113	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R170	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R114	1-216-073-00	METAL GLAZE	10K 5% 1/10W	R171	1-216-035-00	METAL GLAZE	270 5% 1/10W
R115	1-218-755-11	METAL CHIP	130K 0.50% 1/10W	R172	1-216-295-91	METAL GLAZE	0 5% 1/10W
R116	1-216-113-00	METAL GLAZE	470K 5% 1/10W	R173	1-216-035-00	METAL GLAZE	270 5% 1/10W
R117	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R174	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
R118	1-216-107-00	METAL GLAZE	270K 5% 1/10W	R175	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R119	1-216-049-00	METAL GLAZE	1K 5% 1/10W				(KV-C2901K/C2909K)
R120	1-216-035-00	METAL GLAZE	270 5% 1/10W	R180	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R121	1-216-035-00	METAL GLAZE	270 5% 1/10W	R182	1-216-073-00	METAL GLAZE	10K 5% 1/10W
R122	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R183	1-216-067-00	METAL GLAZE	5.6K 5% 1/10W
R123	1-216-089-00	METAL GLAZE	47K 5% 1/10W	R185	1-216-071-00	METAL GLAZE	8.2K 5% 1/10W
R124	1-216-031-00	METAL GLAZE	180 5% 1/10W	R186	1-216-059-00	METAL GLAZE	2.7K 5% 1/10W
R125	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W	R193	1-216-049-00	METAL GLAZE	1K 5% 1/10W
R126	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W				(KV-C2903B/C2908B/C2909B)
R127	1-216-041-00	METAL GLAZE	470 5% 1/10W	R194	1-216-180-00	METAL GLAZE	180 5% 1/8W
R128	1-216-043-91	METAL GLAZE	560 5% 1/10W	R195	1-216-113-00	METAL GLAZE	470K 5% 1/10W
R130	1-216-043-91	METAL GLAZE	560 5% 1/10W	R196	1-216-017-00	METAL GLAZE	47 5% 1/10W
R131	1-216-043-91	METAL GLAZE	560 5% 1/10W	R197	1-216-041-00	METAL GLAZE	470 5% 1/10W
R134	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W	R198	1-216-029-00	METAL GLAZE	150 5% 1/10W
		(KV-C2903B/C2908B/C2909B/C2901D/ C2908D/C2909D/C2901K/C2909K)		R199	1-216-049-00		

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R302	1-216-075-00	METAL GLAZE 12K	5% 1/10W	R415	1-216-067-00	METAL GLAZE 5.6K	5% 1/10W
R303	1-216-091-00	METAL GLAZE 56K	5% 1/10W	R417	1-216-033-00	METAL GLAZE 220	5% 1/10W
R305	1-216-049-00	METAL GLAZE 1K	5% 1/10W	R419	1-216-067-00	METAL GLAZE 5.6K	5% 1/10W
R308	1-216-025-00	METAL GLAZE 100	5% 1/10W	R420	1-216-033-00	METAL GLAZE 220	5% 1/10W
R309	1-216-025-00	METAL GLAZE 100	5% 1/10W	R421	1-216-113-00	METAL GLAZE 470K	5% 1/10W
R311	1-216-025-00	METAL GLAZE 100	5% 1/10W	R422	1-216-022-00	METAL GLAZE 75	5% 1/10W
R313	1-216-025-00	METAL GLAZE 100	5% 1/10W	R423	1-216-093-00	METAL GLAZE 68K	5% 1/10W
R315	1-216-025-00	METAL GLAZE 100	5% 1/10W	R424	1-216-113-00	METAL GLAZE 470K	5% 1/10W
R316	1-216-025-00	METAL GLAZE 100	5% 1/10W	R425	1-216-022-00	METAL GLAZE 75	5% 1/10W
R317	1-216-025-00	METAL GLAZE 100	5% 1/10W	R426	1-216-025-00	METAL GLAZE 100	5% 1/10W
R318	1-216-049-00	METAL GLAZE 1K	5% 1/10W	R427	1-216-188-00	METAL GLAZE 390	5% 1/8W
R319	1-216-025-00	METAL GLAZE 100	5% 1/10W	R429	1-216-067-00	METAL GLAZE 5.6K	5% 1/10W
R320	1-216-025-00	METAL GLAZE 100	5% 1/10W	R430	1-216-089-00	METAL GLAZE 47K	5% 1/10W
R321	1-216-025-00	METAL GLAZE 100	5% 1/10W	R431	1-216-188-00	METAL GLAZE 390	5% 1/8W
R322	1-216-067-00	METAL GLAZE 5.6K	5% 1/10W	R432	1-216-039-00	METAL GLAZE 390	5% 1/10W
R326	1-216-077-00	METAL GLAZE 15K	5% 1/10W	R433	1-216-067-00	METAL GLAZE 5.6K	5% 1/10W
R327	1-216-097-00	METAL GLAZE 100K	5% 1/10W	R434	1-216-025-00	METAL GLAZE 100	5% 1/10W
R328	1-216-025-00	METAL GLAZE 100	5% 1/10W	R435	1-216-039-00	METAL GLAZE 390	5% 1/10W
R329	1-216-067-00	METAL GLAZE 5.6K	5% 1/10W	R436	1-216-022-00	METAL GLAZE 75	5% 1/10W
R330	1-216-033-00	METAL GLAZE 220	5% 1/10W	R437	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R331	1-216-033-00	METAL GLAZE 220	5% 1/10W	R438	1-216-089-00	METAL GLAZE 47K	5% 1/10W
R332	1-216-033-00	METAL GLAZE 220	5% 1/10W	R439	1-216-071-00	METAL GLAZE 8.2K	5% 1/10W
R333	1-216-689-11	METAL CHIP 39K	0.50% 1/10W	R440	1-216-025-00	METAL GLAZE 100	5% 1/10W
R340	1-216-097-00	METAL GLAZE 100K	5% 1/10W	R441	1-216-022-00	METAL GLAZE 75	5% 1/10W
R341	1-216-083-00	METAL GLAZE 27K	5% 1/10W	R442	1-216-067-00	METAL GLAZE 5.6K	5% 1/10W
R342	1-216-073-00	METAL GLAZE 10K	5% 1/10W	R443	1-216-113-00	METAL GLAZE 470K	5% 1/10W
R352	1-216-123-11	METAL GLAZE 1.2M	5% 1/10W	R444	1-216-067-00	METAL GLAZE 5.6K	5% 1/10W
R354	1-216-025-00	METAL GLAZE 100	5% 1/10W	R445	1-216-113-00	METAL GLAZE 470K	5% 1/10W
R355	1-216-065-00	METAL GLAZE 4.7K	5% 1/10W	R446	1-216-025-00	METAL GLAZE 100	5% 1/10W
R356	1-216-025-00	METAL GLAZE 100	5% 1/10W	R447	1-216-025-00	METAL GLAZE 100	5% 1/10W
R364	1-216-041-00	METAL GLAZE 470	5% 1/10W	R448	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R365	1-216-027-00	METAL GLAZE 120	5% 1/10W	R449	1-216-071-00	METAL GLAZE 8.2K	5% 1/10W
R370	1-216-033-00	METAL GLAZE 220	5% 1/10W	R454	1-216-089-00	METAL GLAZE 47K	5% 1/10W
R371	1-216-033-00	METAL GLAZE 220	5% 1/10W	R458	1-216-049-00	METAL GLAZE 1K	5% 1/10W
R372	1-216-033-00	METAL GLAZE 220	5% 1/10W	R461	1-216-022-00	METAL GLAZE 75	5% 1/10W
R373	1-216-041-00	METAL GLAZE 470	5% 1/10W	R464	1-216-034-00	METAL GLAZE 240	5% 1/10W
R380	1-216-222-00	METAL GLAZE 10K	5% 1/8W	R465	1-216-025-00	METAL GLAZE 100	5% 1/10W
R381	1-216-025-00	METAL GLAZE 100	5% 1/10W	R473	1-216-022-00	METAL GLAZE 75	5% 1/10W
R382	1-216-053-00	METAL GLAZE 1.5K	5% 1/10W	R474	1-216-049-00	METAL GLAZE 1K	5% 1/10W
R383	1-216-049-00	METAL GLAZE 1K	5% 1/10W	R482	1-216-073-00	METAL GLAZE 10K	5% 1/10W
R384	1-216-053-00	METAL GLAZE 1.5K	5% 1/10W	R483	1-216-029-00	METAL GLAZE 150	5% 1/10W
R385	1-216-049-00	METAL GLAZE 1K	5% 1/10W	R484	1-216-025-00	METAL GLAZE 100	5% 1/10W
R386	1-216-041-00	METAL GLAZE 470	5% 1/10W	R485	1-216-025-00	METAL GLAZE 100	5% 1/10W
R387	1-216-041-00	METAL GLAZE 470	5% 1/10W	R486	1-216-025-00	METAL GLAZE 100	5% 1/10W
R388	1-216-041-00	METAL GLAZE 470	5% 1/10W	R487	1-216-022-00	METAL GLAZE 75	5% 1/10W
R389	1-216-041-00	METAL GLAZE 470	5% 1/10W	R488	1-216-022-00	METAL GLAZE 75	5% 1/10W
R390	1-216-089-00	METAL GLAZE 47K	5% 1/10W	R489	1-216-022-00	METAL GLAZE 75	5% 1/10W
R392	1-216-091-00	METAL GLAZE 56K	5% 1/10W	R490	1-216-295-91	METAL GLAZE 0	5% 1/10W
R393	1-216-089-00	METAL GLAZE 47K	5% 1/10W	R491	1-216-295-91	METAL GLAZE 0	5% 1/10W
R401	1-216-039-00	METAL GLAZE 390	5% 1/10W	R492	1-216-295-91	METAL GLAZE 0	5% 1/10W
R402	1-216-089-00	METAL GLAZE 47K	5% 1/10W	R1001	1-216-049-00	METAL GLAZE 1K	5% 1/10W
R403	1-216-039-00	METAL GLAZE 390	5% 1/10W	R1002	1-216-025-00	METAL GLAZE 100	5% 1/10W
R404	1-216-089-00	METAL GLAZE 47K	5% 1/10W	R1004	1-216-049-00	METAL GLAZE 1K	5% 1/10W
R405	1-216-039-00	METAL GLAZE 390	5% 1/10W	R1008	1-216-085-00	METAL GLAZE 33K	5% 1/10W
R406	1-216-039-00	METAL GLAZE 390	5% 1/10W	R1009	1-216-025-00	METAL GLAZE 100	5% 1/10W
R407	1-216-198-91	METAL GLAZE 1K	5% 1/8W	R1010	1-216-053-00	METAL GLAZE 1.5K	5% 1/10W
R408	1-216-067-00	METAL GLAZE 5.6K	5% 1/10W	R1011	1-216-053-00	METAL GLAZE 1.5K	5% 1/10W
R409	1-216-067-00	METAL GLAZE 5.6K	5% 1/10W	R1012	1-216-053-00	METAL GLAZE 1.5K	5% 1/10W
R410	1-216-025-00	METAL GLAZE 100	5% 1/10W	R1014	1-216-025-00	METAL GLAZE 100	5% 1/10W
R413	1-216-033-00	METAL GLAZE 220	5% 1/10W	R1015	1-216-025-00	METAL GLAZE 100	5% 1/10W

**A** **C**

Les composants identifiés par  
une trame et une marque   
sont critiques pour la sécurité.  
Ne les remplacer que par une  
pièce portant le numéro spécifié.

The components identified by  
shading and marked  are critical  
for safety.  
Replace only with the part number  
specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
R1016	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1025	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R1026	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R1027	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R1029	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R1101	1-216-025-00	METAL GLAZE 100 5% 1/10W (KV-C2903B/C2908B/C2909B/C2903E/ C2908E/C2909E)	
R1102	1-216-049-00	METAL GLAZE 1K 5% 1/10W (KV-C2903B/C2908B/C2909B/C2903E/ C2908E/C2909E)	
R1103	1-220-149-11	METAL GLAZE 2.2 10% 1/2W (KV-C2903B/C2908B/C2909B/C2903E/ C2908E/C2909E)	
R1104	1-216-085-00	METAL GLAZE 33K 5% 1/10W (KV-C2903B/C2908B/C2909B/C2903E/ C2908E/C2909E)	
R1105	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W (KV-C2903B/C2908B/C2909B/C2903E/ C2908E/C2909E)	
< R1106-R1118 FITTED ON > < KV-C2903B/C2908B/C2909B/C2903E/C2908E/C2909E >			
R1106	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1107	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1108	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
R1109	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
R1110	1-220-238-11	METAL GLAZE 10 5% 1/4W	
R1111	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R1112	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R1113	1-216-117-00	METAL GLAZE 680K 5% 1/10W	
R1114	1-216-158-00	METAL GLAZE 22 5% 1/8W	
R1115	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
R1116	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1117	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1118	1-220-149-11	METAL GLAZE 2.2 10% 1/2W	
< RESISTOR NETWORK >			
RA2	1-236-908-11	RESISTOR, NETWORK (CHIP TYPE)	
RA3	1-236-908-11	RESISTOR, NETWORK (CHIP TYPE)	
< VARIABLE RESISTOR >			
RV102	1-241-765-11	RES, ADJ, CARBON 22K (KV-C2903B/C2908B/C2909B)	
< TRANSFORMER >			
T101	1-403-686-11	COIL	
< TUNER >			
TU101	1-693-185-11	TUNER (UV916H)	
< CRYSTAL >			
X2	1-579-063-21	VIBRATOR, CERAMIC	
X301	1-567-505-11	OSCILLATOR, CRYSTAL	
X302	1-567-504-11	OSCILLATOR, CRYSTAL	
X1001	1-567-495-11	OSCILLATOR, CRYSTAL (EXCEPT KV-C2903B/C2908B/C2909B)	
X1101	1-579-689-21	VIBRATOR, CRYSTAL (KV-C2903B/C2908B/C2909B/C2903E/ C2908E/C2909E)	


REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1638-058-A	C BOARD, COMPLETE *****	
< CAPACITOR >			
C702	1-102-824-00	CERAMIC 470PF 5% 50V	
C703	1-164-082-11	CERAMIC 560PF 10% 50V	
C708	1-162-114-00	CERAMIC 0.0047MF 2KV	
C710	1-123-947-00	ELECT 10MF 20% 250V	
C712	1-164-082-11	CERAMIC 560PF 10% 50V	
C714	1-124-360-00	ELECT 1000MF 20% 16V	
C717	1-102-114-00	CERAMIC 470PF 10% 50V	
C718	1-102-114-00	CERAMIC 470PF 10% 50V	
C719	1-102-114-00	CERAMIC 470PF 10% 50V	
< CONNECTOR >			
CN701	1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P	
CN702	1-695-915-11	TAB (CONTACT)	
CN703	*1-568-882-51	PIN, CONNECTOR 7P	
< DIODE >			
D701	8-719-110-14	DIODE RD9.1ESB3	
D702	8-719-901-33	DIODE 1SS133	
D706	8-719-901-33	DIODE 1SS133	
D707	8-719-901-33	DIODE 1SS133	
D708	8-719-901-33	DIODE 1SS133	
D709	8-719-901-33	DIODE 1SS133	
D710	8-719-901-33	DIODE 1SS133	
D711	8-719-302-43	DIODE EL1Z	
D713	8-719-901-33	DIODE 1SS133	
D714	8-719-901-33	DIODE 1SS133	
D715	8-719-901-33	DIODE 1SS133	
D716	8-719-901-33	DIODE 1SS133	
D717	8-719-901-33	DIODE 1SS133	
D718	8-719-901-33	DIODE 1SS133	
D719	8-719-901-33	DIODE 1SS133	
< CRT SOCKET >			
J701	1-526-990-22	SOCKET, CRT	
< COIL >			
L704	1-408-609-41	INDUCTOR 33UH	
< TRANSISTOR >			
Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q703	8-729-906-70	TRANSISTOR BF871	
Q704	8-729-200-17	TRANSISTOR 2SA1091-O	
Q705	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q706	8-729-906-70	TRANSISTOR BF871	
Q707	8-729-200-17	TRANSISTOR 2SA1091-O	
Q708	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q709	8-729-906-70	TRANSISTOR BF871	
Q710	8-729-200-17	TRANSISTOR 2SA1091-O	
< RESISTOR >			
R704	1-216-486-00	METAL OXIDE 8.2K 5% 3W F	
R705	1-202-822-00	SOLID 2.2K 10% 1/2W	
R706	1-249-409-11	CARBON 220 5% 1/4W	
R707	1-249-408-11	CARBON 180 5% 1/4W	
R709	1-202-844-00	SOLID 330K 10% 1/2W	


REF.NO.	PART NO.	DESCRIPTION	REMARK
R711	1-249-420-11	CARBON 1.8K 5%	1/4W
R712	1-202-822-00	SOLID 2.2K 10%	1/2W
R713	1-215-493-00	METAL 1M 1%	1/4W
R714	1-216-486-00	METAL OXIDE 8.2K 5%	3W F
R715	1-249-417-11	CARBON 1K 5%	1/4W
R716	1-249-409-11	CARBON 220 5%	1/4W
R717	1-249-408-11	CARBON 180 5%	1/4W
R718	1-202-814-11	SOLID 33K 10%	1/2W
R720	1-249-420-11	CARBON 1.8K 5%	1/4W
R722	1-202-848-00	SOLID 680K 10%	1/2W
R723	1-249-417-11	CARBON 1K 5%	1/4W
R724	1-202-846-00	SOLID 470K 10%	1/2W
R726	1-202-822-00	SOLID 2.2K 10%	1/2W
R727	1-249-409-11	CARBON 220 5%	1/4W
R728	1-216-350-11	METAL OXIDE 1.2 5%	1W F
R729	1-249-408-11	CARBON 180 5%	1/4W
R731	1-249-420-11	CARBON 1.8K 5%	1/4W
R732	1-215-479-00	METAL 270K 1%	1/4W
R734	1-247-807-31	CARBON 100 5%	1/4W
R736	1-216-486-00	METAL OXIDE 8.2K 5%	3W F
R737	1-215-485-00	METAL 470K 1%	1/4W
R739	1-249-417-11	CARBON 1K 5%	1/4W
R741	1-202-549-00	SOLID 100 20%	1/2W
R744	1-249-426-11	CARBON 5.6K 5%	1/4W
R745	1-249-426-11	CARBON 5.6K 5%	1/4W
R746	1-249-426-11	CARBON 5.6K 5%	1/4W
< VARIABLE RESISTOR >			
RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	
RV702	1-241-656-11	RES, ADJ, METAL FILM 110M	
*****			
*A-1640-173-A D2 BOARD, COMPLETE			
*****			
< CAPACITOR >			
C1840	1-107-714-11	ELECT 10MF 20%	50V
C1841	1-107-714-11	ELECT 10MF 20%	50V
C1842	1-107-714-11	ELECT 10MF 20%	50V
C1843	1-137-364-11	FILM 0.001MF 5%	50V
C1844	1-124-903-11	ELECT 1MF 20%	50V
C1851	1-126-103-11	ELECT 470MF 20%	16V
C1854	1-126-967-11	ELECT 47MF 20%	50V
C1855	1-137-370-11	FILM 0.01MF 5%	50V
C1858	1-137-364-11	FILM 0.001MF 5%	50V
C1859	1-137-364-11	FILM 0.001MF 5%	50V
C1860	1-130-489-00	FILM 0.033MF 5%	50V
C1861	1-130-489-00	FILM 0.033MF 5%	50V
C1863	1-136-104-00	FILM 0.16MF 5%	200V
C1867	1-126-103-11	ELECT 470MF 20%	16V
C1892	1-130-489-00	FILM 0.033MF 5%	50V
< CONNECTOR >			
CN1823	1-573-299-21	CONNECTOR, BOARD TO BOARD 10P	
CN1824	1-568-878-51	PLUG, CONNECTOR, 3P	
< DIODE >			
D1856	8-719-901-33	DIODE 1SS133	
D1867	8-719-987-87	DIODE ERA85-009	
D1868	8-719-987-87	DIODE ERA85-009	








REF.NO.	PART NO.	DESCRIPTION	REMARK
D1882	8-719-010-34	DIODE UZ-4.7BSC	
D1883	8-719-010-34	DIODE UZ-4.7BSC	
< IC >			
IC1851	8-759-991-41	IC LM78L05ACZ	
IC1852	8-759-603-37	IC M5216P	
IC1853	8-759-902-21	IC SN74LS221N	
< COIL >			
L1852	1-459-390-00	COIL (WITH CORE)	
< TRANSISTOR >			
Q1851	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1854	8-729-173-38	TRANSISTOR 2SA733-K	
Q1855	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1856	8-729-017-05	TRANSISTOR 2SA1837	
Q1857	8-729-122-03	TRANSISTOR 2SA1220A-P	
Q1858	8-729-920-92	TRANSISTOR 2SD2096-EF	
Q1859	8-729-173-38	TRANSISTOR 2SA733-K	
Q1860	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q1861	8-729-017-06	TRANSISTOR 2SC4793	
< RESISTOR >			
R1840	1-249-435-11	CARBON 33K 5%	1/4W
R1841	1-249-438-11	CARBON 56K 5%	1/4W
R1842	1-215-860-11	METAL 33 5%	1W
R1843	1-215-860-11	METAL 33 5%	1W
R1852	1-249-437-11	CARBON 47K 5%	1/4W
R1853	1-249-438-11	CARBON 56K 5%	1/4W
R1854	1-249-429-11	CARBON 10K 5%	1/4W
R1858	1-247-885-00	CARBON 180K 5%	1/4W
R1860	1-249-403-11	CARBON 68 5%	1/4W
R1861	1-249-429-11	CARBON 10K 5%	1/4W
R1862	1-249-420-11	CARBON 1.8K 5%	1/4W
R1873	1-215-909-11	METAL OXIDE 47 5%	3W F
R1875	1-215-453-00	METAL 22K 1%	1/4W
R1877	1-249-441-11	CARBON 100K 5%	1/4W
R1878	1-260-091-11	CARBON 220 5%	1/2W
R1881	1-260-091-11	CARBON 220 5%	1/2W
R1882	1-215-869-11	METAL OXIDE 1K 5%	1W F
R1893	1-215-909-11	METAL OXIDE 47 5%	3W F
R1894	1-249-408-11	CARBON 180 5%	1/4W
R1895	1-249-417-11	CARBON 1K 5%	1/4W
R1898	1-249-411-11	CARBON 330 5%	1/4W
R1899	1-249-411-11	CARBON 330 5%	1/4W
< VARIABLE RESISTOR >			
RV1851	1-241-765-11	RES, ADJ, CERMET 22K	
RV1853	1-241-628-11	RES, ADJ, CARBON 2.2K	
RV1854	1-241-784-11	RES, ADJ, CARBON 4.7K	
< TRANSFORMER >			
T1851	1-423-786-11	TRANSFORMER, FERRITE (VPOT)	
*****			







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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1642-147-A	D BOARD, COMPLETE *****		C636	 1-164-503-61	CERAMIC 0.0022MF 20% 400V	
	4-201-023-01	SPACER, INSULATING		C639	1-136-165-00	FILM 0.1MF 5% 50V	
	4-201-057-01	COVER, FUSE		C640	1-106-220-00	MYLAR 0.1MF 10% 100V	
	4-202-373-01	SPRING, IC					
	4-812-134-00	RIVET NYLON, 3.5		C647	1-162-116-00	CERAMIC 680PF 10% 2KV	
	< CAPACITOR >			C800	1-137-437-11	FILM 0.0056MF 5% 50V	
C502	1-102-824-00	CERAMIC 470PF 5% 50V		C801	1-136-153-00	FILM 0.01MF 5% 50V	
C503	1-136-165-00	FILM 0.1MF 5% 50V		C804	1-136-165-00	FILM 0.1MF 5% 50V	
C504	1-102-824-00	CERAMIC 470PF 5% 50V		C805	1-106-395-00	MYLAR 0.15MF 10% 200V	
C506	1-126-941-11	ELECT 470MF 20% 25V					
C507	1-109-953-11	ELECT 2.2MF 20% 50V		C806	1-108-704-11	MYLAR 0.1MF 10% 200V	
				C807	1-136-853-11	FILM 0.56MF 5% 200V	
C509	1-136-165-00	FILM 0.1MF 5% 50V		C810	1-126-772-11	ELECT 1MF 20% 250V	
C510	1-126-969-11	ELECT 220MF 20% 50V		C811	1-102-212-00	CERAMIC 820PF 10% 500V	
C511	1-136-202-11	FILM 0.33MF 5% 63V		C812	1-136-540-11	FILM 0.82MF 5% 200V	
C513	1-106-220-00	MYLAR 0.1MF 10% 100V					
C514	1-136-165-00	FILM 0.1MF 5% 50V		C813	1-129-722-00	FILM 0.047MF 10% 630V	
				C814	1-136-565-11	FILM 0.015MF 3% 1.4KV	
C515	1-126-941-11	ELECT 470MF 20% 25V		C815	1-136-562-11	MYLAR 0.0082MF 10% 400V	
C517	1-126-941-11	ELECT 470MF 20% 25V		C816	1-161-754-00	CERAMIC 0.001MF 10% 2KV	
C518	1-102-228-00	CERAMIC 470PF 10% 500V		C817	1-161-754-00	CERAMIC 0.001MF 10% 2KV	
C519	1-102-228-00	CERAMIC 470PF 10% 500V					
C520	1-126-941-11	ELECT 470MF 20% 25V		C818	1-162-134-11	CERAMIC 470PF 10% 2KV	
				C819	1-136-208-11	FILM 0.068MF 10% 250V	
C521	1-124-006-11	ELECT 10MF 20% 25V		C820	1-102-114-00	CERAMIC 470PF 10% 50V	
C522	1-126-964-11	ELECT 10MF 20% 50V		C821	1-162-114-00	CERAMIC 0.0047MF 2KV	
C523	1-136-165-00	FILM 0.1MF 5% 50V		C822	1-107-662-11	ELECT 22MF 20% 250V	
C600	 1-164-503-61	CERAMIC 0.0022MF 20% 400V					
C601	 1-161-964-91	CERAMIC 0.0047MF 250V		C824	1-123-024-21	ELECT 33MF 160V	
C602	 1-161-964-91	CERAMIC 0.0047MF 250V		C829	1-124-902-00	ELECT 0.47MF 20% 50V	
C603	1-125-318-00	ELECT(BLOCK) 220MF 20% 400V		C830	1-124-902-00	ELECT 0.47MF 20% 50V	
C604	1-124-122-11	ELECT 100MF 20% 50V		C832	1-124-903-11	ELECT 1MF 20% 50V	
C605	1-107-929-11	ELECT 10MF 20% 100V		C834	1-124-916-11	ELECT 22MF 20% 25V	
C606	1-162-318-11	CERAMIC 0.001MF 10% 500V					
				C835	1-162-318-11	CERAMIC 0.001MF 10% 500V	
C607	1-104-666-11	ELECT 220MF 20% 25V		C836	1-162-117-00	CERAMIC 100PF 10% 500V	
C608	1-109-880-11	FILM 0.0015MF 3% 2KV		C838	1-102-228-00	CERAMIC 470PF 10% 500V	
C611	1-102-228-00	CERAMIC 470PF 10% 500V		C839	1-136-189-00	FILM 0.1MF 10% 250V	
C612	1-104-799-11	ELECT 22MF 20% 100V		C900	1-101-810-00	CERAMIC 100PF 5% 500V	
C613	1-124-347-00	ELECT 100MF 20% 160V					
				C901	1-101-810-00	CERAMIC 100PF 5% 500V	
C614	1-126-804-11	ELECT 100MF 20% 25V		C902	1-137-372-11	FILM 0.022MF 5% 50V	
C615	1-126-376-11	ELECT 470MF 20% 25V		C903	1-137-372-11	FILM 0.022MF 5% 50V	
C616	1-110-639-11	ELECT 1000MF 20% 25V		C904	1-124-910-11	ELECT 47MF 20% 50V	
C617	1-107-884-11	ELECT 1000MF 20% 16V		C905	1-124-907-11	ELECT 10MF 20% 50V	
C618	1-136-165-00	FILM 0.1MF 5% 50V					
				C906	1-126-967-11	ELECT 47MF 20% 50V	
C619	1-102-228-00	CERAMIC 470PF 10% 500V		C907	1-124-903-11	ELECT 1MF 20% 50V	
C620	1-102-228-00	CERAMIC 470PF 10% 500V		C908	1-126-967-11	ELECT 47MF 20% 50V	
C621	1-136-165-00	FILM 0.1MF 5% 50V		C909	1-124-903-11	ELECT 1MF 20% 50V	
C622	1-104-797-11	ELECT 0.47MF 20% 100V		C910	1-137-393-11	FILM 0.01MF 5% 100V	
C623	1-104-666-11	ELECT 220MF 20% 25V					
				C1200	1-136-165-00	FILM 0.1MF 5% 50V	
C624	1-136-165-00	FILM 0.1MF 5% 50V		C1201	1-136-165-00	FILM 0.1MF 5% 50V	
C625	1-126-967-11	ELECT 47MF 20% 50V		C1202	1-136-165-00	FILM 0.1MF 5% 50V	
C626	1-104-666-11	ELECT 220MF 20% 25V		C1203	1-136-169-00	FILM 0.22MF 5% 50V	
C627	1-104-666-11	ELECT 220MF 20% 25V		C1204	1-136-169-00	FILM 0.22MF 5% 50V	
C628	1-126-964-11	ELECT 10MF 20% 50V					
				C1205	1-101-005-00	CERAMIC 0.022MF 50V	
C629	1-126-800-51	ELECT 2200MF 20% 25V		C1206	1-101-005-00	CERAMIC 0.022MF 50V	
C630	1-126-800-51	ELECT 2200MF 20% 25V		C1207	1-126-933-11	ELECT 100MF 20% 16V	
C631	1-126-233-11	ELECT 22MF 20% 50V		C1208	1-124-927-11	ELECT 4.7MF 20% 50V	
C632	1-104-666-11	ELECT 220MF 20% 25V		C1209	1-124-927-11	ELECT 4.7MF 20% 50V	
C633	 1-107-564-11	FILM 0.22MF 20% 300V					
C634	 1-107-564-11	FILM 0.22MF 20% 300V		C1210	1-124-925-11	ELECT 2.2MF 20% 50V	
C635	 1-107-564-11	FILM 0.22MF 20% 300V		C1211	1-124-925-11	ELECT 2.2MF 20% 50V	
				C1214	1-126-933-11	ELECT 100MF 20% 16V	
				C1215	1-136-173-00	FILM 0.47MF 5% 50V	
				C1216	1-137-366-11	FILM 0.0022MF 5% 50V	
				C1217	1-137-366-11	FILM 0.0022MF 5% 50V	
				C1218	1-126-934-11	ELECT 220MF 20% 16V	


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
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**D**

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
< CONNECTOR >							
CN600	1-508-786-11	PIN, CONNECTOR (5MM PITCH) 2P		D904	8-719-923-60	DIODE MTZJ-9.1A	
CN601 	1-508-765-11	PIN, CONNECTOR (5MM PITCH) 3P		D905	8-719-923-60	DIODE MTZJ-9.1A	
CN603 	*1-580-844-11	PIN, CONNECTOR (POWER)		D906	8-719-923-60	DIODE MTZJ-9.1A	
CN800	*1-580-798-11	CONNECTOR PIN (DY) 6P		D1201	8-719-109-72	DIODE RD3.9ESB2	
CN801	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P		< FUSE >			
CN803	1-695-915-11	TAB (CONTACT)		F601 	1-576-232-21	FUSE (H.B.C.) 5A/250V	
CN804	1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P			1-533-230-11	HOLDER, FUSE ; F601	
CN807	1-568-878-51	PIN, CONNECTOR 3P		< FERRITE BEAD >			
CN900	1-568-678-11	TERMINAL BLOCK, S 3P		FB600	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
CN901	*1-564-520-11	PLUG, CONNECTOR 5P		FB601	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
CN902	1-695-299-11	CONNECTOR, BOARD TO BOARD 50P		FB602	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
CN1200	*1-568-879-11	PIN, CONNECTOR 4P		FB604	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
CN1201	*1-568-878-51	PIN, CONNECTOR 3P		FB605	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
< DIODE >				FB606	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
D500	8-719-109-85	DIODE RD5.1ESB2		FB607	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
D502	8-719-979-85	DIODE EGP20G		< IC >			
D503	8-719-979-85	DIODE EGP20G		IC500	8-759-192-71	IC STV9379	
D504	8-719-901-33	DIODE 1SS133		IC600	8-759-183-88	IC STR-S6708	
D505	8-719-982-03	DIODE MTZJ-3.6A		IC601 	8-749-924-92	IC TLP721-GR	
D506	8-719-901-33	DIODE 1SS133		IC602	8-749-920-61	IC SE-135N	
D507	8-719-109-85	DIODE RD5.1ESB2		IC603	8-759-144-82	IC $\mu$ PC2405HF	
D600	8-719-510-53	DIODE D4SB60L		IC604	8-759-250-63	IC TL750L05CLPR	
D601	8-719-046-77	DIODE EMI-V1		IC605	8-759-231-58	IC TA7812S	
D603	8-719-109-97	DIODE RD6.8ESB2		IC606	8-759-267-25	IC LM2940T-9.0	
D604	8-719-046-75	DIODE EU-1-V1		IC800	8-759-103-93	IC $\mu$ PC393C	
D605	8-719-312-61	DIODE EU-1Z		IC900	8-741-790-11	IC SBX1790-51	
D606	8-719-312-61	DIODE EU-1Z		IC1200	8-759-250-68	IC TDA7264	
D607	8-719-046-78	DIODE EG-1Z-V1		IC1201	8-759-502-21	IC TDA2822M	
D608	8-719-046-75	DIODE EU-1-V1		< JACK SOCKET >			
D609	8-719-301-64	DIODE RU4DS		J900	1-764-606-11	JACK	
D610	8-719-046-74	DIODE AU-01Z-V1		< COIL >			
D611	8-719-302-43	DIODE EL1Z		L502	1-412-519-11	INDUCTOR 3.3UH	
D612	8-719-053-64	DIODE RU3YX-LF-C4		L503	1-412-519-11	INDUCTOR 3.3UH	
D613	8-719-045-48	DIODE FML-G12S		L609	1-412-533-21	INDUCTOR 47UH	
D614	8-719-045-48	DIODE FML-G12S		L611	1-412-527-11	INDUCTOR 15UH	
D615	8-719-046-75	DIODE EU-1-V1		L612	1-414-415-11	INDUCTOR, WIDE BAND	
D616	8-719-110-03	DIODE RD7.5ESB2		L613	1-414-415-11	INDUCTOR, WIDE BAND	
D617	8-719-901-33	DIODE 1SS133		L800	1-459-087-00	COIL, HCC DUST CORE 3.9MMH	
D618	8-719-901-33	DIODE 1SS133		L801	1-459-087-00	COIL, HCC DUST CORE 3.9MMH	
D619	8-719-901-33	DIODE 1SS133		L802	1-459-104-00	COIL, WITH CORE	
D620	8-719-901-33	DIODE 1SS133		L803	1-420-872-00	COIL, AIR CORE	
D622	8-719-923-60	DIODE MTZJ-9.1A		L804	1-459-907-11	COIL, HORIZONTAL LINEARITY	
D625	8-719-901-33	DIODE 1SS133		L805	1-406-675-11	COIL, CHOK 4.7MMH	
D626	8-719-046-74	DIODE AU-01Z-V1		L809	1-412-533-21	INDUCTOR 47UH	
D800	8-719-901-33	DIODE 1SS133		L900	1-408-409-00	INDUCTOR 10UH	
D801	8-719-901-33	DIODE 1SS133		L901	1-408-409-00	INDUCTOR 10UH	
D802	8-719-901-33	DIODE 1SS133		L902	1-408-409-00	INDUCTOR 10UH	
D803	8-719-908-03	DIODE GP08D		L903	1-408-409-00	INDUCTOR 10UH	
D807	8-719-302-43	DIODE EL1Z		< IC LINK >			
D808	8-719-908-03	DIODE GP08D		PS600 	1-532-686-91	LINK, IC 2.7A (ICP-F75)	
D809	8-719-018-82	DIODE RGP02-20EL-6394		PS601 	1-532-686-91	LINK, IC 2.7A (ICP-F75)	
D810	8-719-302-43	DIODE EL1Z		PS602 	1-532-686-91	LINK, IC 2.7A (ICP-F75)	
D812	8-719-038-49	DIODE FMS-3FU-LF027-103		PS603 	1-532-686-91	LINK, IC 2.7A (ICP-F75)	
D815	8-719-908-03	DIODE GP08D					
D817	8-719-109-89	DIODE RD5.6ESB2					
D901	8-719-030-11	DIODE SLA-570KT3F					
D902	8-719-923-60	DIODE MTZJ-9.1A					
D903	8-719-923-60	DIODE MTZJ-9.1A					


D

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REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
PS801 	1-532-505-91	LINK, IC 0.4A (ICP-V10)		R616	1-215-479-00	METAL 270K 1%	1/4W
< TRANSISTOR >				R617	1-215-901-00	METAL OXIDE 33K 5%	2W F
Q501	8-729-119-78	TRANSISTOR 2SC2785-HFE		R618	1-247-863-91	CARBON 22K 5%	1/4W
Q502	8-729-173-38	TRANSISTOR 2SA733-K		R619	1-216-425-11	METAL OXIDE 56 5%	1W F
Q503	8-729-900-89	TRANSISTOR DTC144ES		R620	1-247-895-00	CARBON 470K 5%	1/4W
Q601	8-729-025-04	TRANSISTOR 2SC3852A		R621	1-216-425-11	METAL OXIDE 56 5%	1W F
Q602	8-729-320-28	TRANSISTOR 2SA1667		R622	1-249-437-11	CARBON 47K 5%	1/4W
Q603	8-729-027-08	TRANSISTOR 2SC2389S-R		R623	1-249-429-11	CARBON 10K 5%	1/4W
Q604	8-729-024-35	TRANSISTOR 2SC2808S-R		R624	1-249-405-11	CARBON 100 5%	1/4W F
Q605	8-729-119-78	TRANSISTOR 2SC2785-HFE		R625	1-249-434-11	CARBON 27K 5%	1/4W
Q606	8-729-900-65	TRANSISTOR DTA144ES		R626	1-249-430-11	CARBON 12K 5%	1/4W
Q607	8-729-119-78	TRANSISTOR 2SC2785-HFE		R628	1-249-415-11	CARBON 680 5%	1/4W F
Q800	8-729-119-78	TRANSISTOR 2SC2785-HFE		R629 	1-244-945-91	CARBON 1M 5%	1/2W
Q801	8-729-017-06	TRANSISTOR 2SC4793		R630 	1-216-265-21	METAL 8.2K 5%	1W
Q802	8-729-016-32	TRANSISTOR 2SC4927-01		R631 	1-205-949-11	WIREWOUND 1.8 5%	10W
Q803	8-729-119-80	TRANSISTOR 2SC2688-LK		R632	1-247-807-31	CARBON 100 5%	1/4W
Q805	8-729-900-89	TRANSISTOR DTC144ES		R633	1-247-807-31	CARBON 100 5%	1/4W
Q1200	8-729-119-78	TRANSISTOR 2SC2785-HFE		R634	1-249-397-11	CARBON 22 5%	1/4W F
Q1201	8-729-900-74	TRANSISTOR DTC143TS		R635	1-249-437-11	CARBON 47K 5%	1/4W
Q1202	8-729-900-80	TRANSISTOR DTC114ES		R636	1-249-417-11	CARBON 1K 5%	1/4W
Q1203	8-729-900-74	TRANSISTOR DTC143TS		R637	1-249-409-11	CARBON 220 5%	1/4W
Q1204	8-729-900-74	TRANSISTOR DTC143TS		R638	1-247-863-91	CARBON 22K 5%	1/4W
< RESISTOR >				R639	1-215-427-00	METAL 1.8K 1%	1/4W
R500	1-215-457-00	METAL 33K 1%	1/4W	R640	1-216-381-11	METAL OXIDE 0.22 5%	3W F
R502	1-249-421-11	CARBON 2.2K 5%	1/4W	R641	1-216-381-11	METAL OXIDE 0.22 5%	3W F
R503	1-249-429-11	CARBON 10K 5%	1/4W	R642 	1-205-949-11	WIREWOUND 1.8 5%	10W
R504	1-215-461-00	METAL 47K 1%	1/4W	R644	1-247-807-31	CARBON 100 5%	1/4W
R505	1-249-382-11	CARBON 1.2 5%	1/4W F	R645	1-249-422-11	CARBON 2.7K 5%	1/4W
R506	1-215-443-00	METAL 8.2K 1%	1/4W	R646	1-249-377-11	CARBON 0.47 5%	1/4W F
R507	1-215-888-00	METAL OXIDE 220 5%	2W F	R647	1-202-933-61	FUSIBLE 0.1 10%	1/2W F
R508	1-216-371-00	METAL OXIDE 1.5 5%	2W F	R648	1-216-397-11	METAL OXIDE 4.7 5%	3W F
R509	1-249-443-11	CARBON 0.47 5%	1/4W F	R800	1-249-421-11	CARBON 2.2K 5%	1/4W
R510	1-249-443-11	CARBON 0.47 5%	1/4W F	R801	1-249-429-11	CARBON 10K 5%	1/4W
R517	1-215-427-00	METAL 1.8K 1%	1/4W	R802	1-249-431-11	CARBON 15K 5%	1/4W
R518	1-215-427-00	METAL 1.8K 1%	1/4W	R803	1-249-423-11	CARBON 3.3K 5%	1/4W
R520	1-215-457-00	METAL 33K 1%	1/4W	R804	1-249-430-11	CARBON 12K 5%	1/4W
R521	1-215-461-00	METAL 47K 1%	1/4W	R805	1-249-425-11	CARBON 4.7K 5%	1/4W
R522	1-247-863-91	CARBON 22K 5%	1/4W	R812	1-249-421-11	CARBON 2.2K 5%	1/4W
R523	1-247-863-91	CARBON 22K 5%	1/4W	R813	1-215-867-00	METAL OXIDE 470 5%	1W F
R524	1-249-425-11	CARBON 4.7K 5%	1/4W	R814	1-249-411-11	CARBON 330 5%	1/4W
R525	1-249-425-11	CARBON 4.7K 5%	1/4W	R816	1-216-481-11	METAL OXIDE 1.2K 5%	3W F
R526	1-249-421-11	CARBON 2.2K 5%	1/4W	R817	1-216-481-11	METAL OXIDE 1.2K 5%	3W F
R527	1-215-438-00	METAL 5.1K 1%	1/4W	R818	1-215-882-00	METAL OXIDE 22 5%	2W F
R528	1-247-901-11	CARBON 820K 5%	1/4W	R819	1-216-345-11	METAL OXIDE 0.47 5%	1W F
R529	1-247-895-00	CARBON 470K 5%	1/4W	R820	1-249-403-11	CARBON 68 5%	1/4W
R600	1-216-490-11	METAL OXIDE 39K 5%	3W F	R821	1-215-909-11	METAL OXIDE 47 5%	3W F
R601	1-249-417-11	CARBON 1K 5%	1/4W	R822	1-215-868-00	METAL OXIDE 680 5%	1W F
R603	1-215-875-11	METAL OXIDE 10K 5%	1W F	R824	1-249-420-11	CARBON 1.8K 5%	1/4W
R604	1-249-420-11	CARBON 1.8K 5%	1/4W	R826	1-247-752-11	CARBON 1K 5%	1/2W
R605	1-216-362-11	METAL OXIDE 0.27 5%	2W F	R827	1-249-425-11	CARBON 4.7K 5%	1/4W
R607	1-216-421-11	METAL OXIDE 12 5%	1W F	R828	1-249-425-11	CARBON 4.7K 5%	1/4W
R608	1-216-365-00	METAL OXIDE 0.47 5%	2W F	R829	1-249-493-11	CARBON 56K 5%	1/2W
R610	1-215-427-00	METAL 1.8K 1%	1/4W	R830	1-217-778-11	FUSIBLE 1K 5%	1W F
R611	1-215-859-00	METAL OXIDE 22 5%	1W F	R833	1-249-421-11	CARBON 2.2K 5%	1/4W F
R612	1-249-428-11	CARBON 8.2K 5%	1/4W	R836	1-249-439-11	CARBON 68K 5%	1/4W
R613	1-249-417-11	CARBON 1K 5%	1/4W	R837	1-249-429-11	CARBON 10K 5%	1/4W
R614	1-215-877-11	METAL OXIDE 22K 5%	1W F	R840	1-247-807-31	CARBON 100 5%	1/4W
R615	1-249-435-11	CARBON 33K 5%	1/4W	R841	1-249-418-11	CARBON 1.2K 5%	1/4W
				R842	1-249-435-11	CARBON 33K 5%	1/4W
				R843	1-247-903-00	CARBON 1M 5%	1/4W



The components identified by shading and marked  are critical for safety. Replace only with the part number specified.

**D VM**

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Les composants identifiés par  
une trame et une marque   
sont critiques pour la sécurité.  
Ne les remplacer que par une  
pièce portant le numéro spécifié.

The components identified by  
shading and marked are critical  
for safety.  
Replace only with the part number  
specified.

REF.NO.	PART NO.	DESCRIPTION	REMARK
R1702	1-249-420-11	CARBON	1.8K 5% 1/4W
R1703	1-247-807-31	CARBON	100 5% 1/4W
R1704	1-249-420-11	CARBON	1.8K 5% 1/4W
R1705	1-247-736-11	CARBON	56 5% 1/2W F
R1706	1-249-414-11	CARBON	560 5% 1/4W F
R1707	1-249-412-11	CARBON	390 5% 1/4W
R1709	1-249-416-11	CARBON	820 5% 1/4W
R1710	1-249-385-11	CARBON	2.2 5% 1/4W F
R1711	1-249-432-11	CARBON	18K 5% 1/4W
R1712	1-249-435-11	CARBON	33K 5% 1/4W
R1713	1-249-438-11	CARBON	56K 5% 1/4W
R1714	1-249-429-11	CARBON	10K 5% 1/4W
R1715	1-216-476-11	METAL OXIDE	180 5% 3W F
R1716	1-249-417-11	CARBON	1K 5% 1/4W F
R1717	1-249-432-11	CARBON	18K 5% 1/4W
R1718	1-249-410-11	CARBON	270 5% 1/4W
R1719	1-249-419-11	CARBON	1.5K 5% 1/4W
R1720	1-249-441-11	CARBON	100K 5% 1/4W
R1721	1-249-414-11	CARBON	560 5% 1/4W
R1722	1-249-385-11	CARBON	2.2 5% 1/4W F
R1723	1-249-429-11	CARBON	10K 5% 1/4W
R1724	1-249-436-11	CARBON	39K 5% 1/4W
R1725	1-249-417-11	CARBON	1K 5% 1/4W
R1726	1-249-411-11	CARBON	330 5% 1/4W
R1727	1-249-402-11	CARBON	56 5% 1/4W F
R1729	1-216-451-11	METAL OXIDE	120 5% 2W F
R1731	1-249-420-11	CARBON	1.8K 5% 1/4W
R1732	1-249-426-11	CARBON	5.6K 5% 1/4W
R1734	1-249-419-11	CARBON	1.5K 5% 1/4W

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REF.NO.	PART NO.	DESCRIPTION	REMARK
		MISCELLANEOUS	
		*****	
	1-406-807-11	COIL, DEGAUSSING	
	1-452-032-00	MAGNET, DISK; 10MM Ø	
	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM Ø	
	1-452-509-41	NECK ASSY, PICTURE TUBE (NA-308)	
	1-453-169-11	TRANSFORMER ASSY, FLYBACK (UX-1604A2)	
	1-504-146-11	SPEAKER (5X11CM)	
	1-571-433-12	SWITCH, PUSH (AC POWER)	
	1-693-185-11	TUNER (UV916H)	
	1-751-680-11	CORD, POWER (WITH NOISE FILTER)	
	8-451-422-11	DEFLECTION YOKE (Y29GXA)	
V901	8-733-841-05	PICTURE TUBE (SD-269) (M68KZT10X)	
		*****	
		ACCESSORIES AND PACKING MATERIALS	
		*****	
	4-039-906-11	BAG, PROTECTION	
	4-202-990-01	CUSHION (UPPER) (ASSY)	
	4-202-991-01	INDIVIDUAL CARTON	
	4-202-997-01	CUSHION (LOWER) (ASSY)	
	4-202-989-11	MANUAL, INSTRUCTION	
		(KV-C2901D/C2908D/C2909D)	
		(DUTCH/ENGLISH/GERMAN/GREEK/TURKISH)	
	4-202-989-41	MANUAL, INSTRUCTION (KV-C2901A)	
		(ITALIAN)	
	4-202-989-51	MANUAL, INSTRUCTION	
		(KV-C2903B/C2908B/C2909B)	
		(FRENCH/GERMAN/ITALIAN)	
	4-202-989-71	MANUAL, INSTRUCTION (SET.E)	
		(KV-C2903E/C2908E/C2909E)	
		(DANISH/DUTCH/FINISH/FRENCH/GERMAN/ NORWEGIAN/PORTUGUESE/SPANISH/SWEEDISH)	
	4-202-989-81	MANUAL, INSTRUCTION (SET.G)	
		(KV-C2903E/C2908E/C2909E)	
		(DANISH/DUTCH/FINISH/FRENCH/GERMAN/ NORWEGIAN/PORTUGUESE/SPANISH/SWEEDISH)	
	4-202-989-91	MANUAL, INSTRUCTION (KV-C2901K/C2909K)	
		(BULGARIAN/CZECHOSLOVAKIAN/ENGLISH/ HUNGARIAN/POLISH/RUSSIAN)	
		REMOTE COMMANDER	
		*****	
	1-467-706-11	COMMANDER, STANDARD TYPE (RM-833)	

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